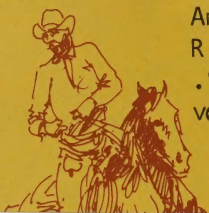


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THE SALT LAKE

SANITARIAN.

BY M. BARD SHIPP, M. D.

SALT LAKE CITY, UTAH.

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SALT LAKE SANITARIAN.

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VOL. I.

SALT LAKE CITY, APRIL, 1888.

No. 1.

ORIGINAL ARTICLES.

REMEDIAL AGENTS.

BY THE EDITORS.

Fashion in everything: the different ages have built after their own architecture and every year clothes her people in a new style. As the approaching seasons bring their constant changes, so do we find in life an incessant flow bearing upon its flood the debris that has given way to the advance of something new. Nor do we discover that remedial agents have escaped the mutations of time, for lo! we find fashion in medicine as well as in the milliner shop, and its changes occurring as often. A very good authority on this subject is Dr. Wood, author of an excellent work on "Materia Medica," who says, "What to-day is believed, is to-morrow cast aside."

Yet earnest workers have incessantly and laboriously striven by clinical work to fix and establish something for the relief of the sick that would withstand the test of time. But what has been the result? Let this same authority answer. "What has clinical therapeutics established permanently and indisputably? Scarcely anything beyond the primary facts, that quinia will arrest an intermittent, that salts will purge, and that opium will quiet pain and lull to sleep."

We would naturally look to experience as a factor that would bring us something stable, something we could depend upon. In other departments of life we find its results produce satisfaction, but it seems to have failed us on this great question. Dr. Wood continues, "Experience is said to be the mother of wisdom, verily she has been in medicine rather a blind leader of the blind; and the history of medical progress is a history of men groping in darkness, finding seeming gems of truth, one after another, in a few minutes, to cast each back to a vast heap of baubles, that in their day had also been mistaken for verities. In the past there is scarcely a conceivable absurdity that men have not tasted by experience and for a time found to be the thing desired."

"Narrowing our gaze to the regular profession, and to a few decades, what do we see? Experience teaching that not to bleed a man suffering from pneumonia is to consign him to a grave, never opened by nature. Looking at the revolutions and contradictions of the past—listening to the therapeutic babel of the present,—is it a wonder that men should take refuge in Nihilism, and, like the lotus-eaters, dream that all alike is folly,—that rest, and quiet, and calm are the only human fruition?"

Notwithstanding the declarations of

this therapist, whose works attain great prominence in the medical profession, we have this to encourage us, that in this our day there are rapid advances being made in all the departments of knowledge and science; no other age is so noted as the present for the development and production of those things that conduce so greatly to human happiness, and it is particularly gratifying to know that in no direction is this more perceptible than in the rapid strides that are being made in the selection and uses of remedial agents in disease. Now, my sick friend, do not conclude that we design that you must take more medicine, oftener and larger doses,—that the already loaded shelf in the cupboard must carry a heavier burden of drugs and patent medicines to minister to your relief, or the stand at the bedside, which, peradventure, is now groaning under the weight of cups and spoons, bottles and powder, pills and “shot-gun prescriptions,” to take you on the fly, must be further crowded to make room for additional mixtures to be assigned their quarters and half-hours not already occupied by other nostrums—all this that you may be cured. No indeed, we intend nothing of the kind—just the contrary. Sick people are dosed to death. They hardly get fairly started in gulping down one mixture before a good neighbor (no question but the intent is the very best for your welfare) comes in to see how you are, and before leaving, proposes you try something else, so that, before recovery is established by the natural processes, the sick man has to undergo the diversified medication of the entire neighborhood. Fortunate is he whose vital

forces can stand them all off to a successful issue. To all such afflicted, permit me to make a suggestion. If you do not know what to do—let medicines alone, and trust to nature. It is not medicines that heal your wounds, that build up the tissues that have wasted by the ravages of disease, or that repair the damages done by inflammations. We are writing for the consideration of those who depend upon domestic practice in times of sickness. If you employ a physician and he is a qualified, honest practitioner, and is up with the times, he is not dosing you with much medicines. To know enough not to give drugs indiscriminately, that is so prevalent in domestic practices, is the point I am trying to urge. Medicines do not restore you when you are sick. If I could but properly enforce this thought upon my readers that they might fully appreciate its import, I would have accomplished something in the direction of a better understanding of the uses of remedial agents. If these ideas could be generally disseminated among the masses, and received by them, it might, in a measure, stay the pernicious flood of patent medicines that is deluging the country. Doubtless you will be astonished, if your attention has not been previously called to the fact, to learn the gigantic proportions that this industry has attained. It is not far short of \$25,000,000 that is spent annually in the United States for patent medicines—as a prominent medical journal puts it, “the people of this country pay annually nearly one-third as much for drugs to poison their stomachs as they do for instruction to enlighten their minds.”

There is another thing gained by not giving medicine blindly: the natural processes of the human organism that do the healing, would have a better chance to do their work, suffering would be lessened and lives would be prolonged; and further, what might be a desideratum with some, your pocket books would not undergo such a drastic purgation. Professor Bartholow, a man that is an acknowledged authority on the subject of remedial agents says: "The various aliments (foods) are of the first importance as remedial agents. No satisfactory repair of diseased or wasting tissues can take place without a suitable supply of healthy blood, and healthy blood is the product of proper food and normal digestion and assimilation." This important fact in our ministering to the sick is too often overlooked. We fail to depend upon the regulation of diet, instead of trusting so confidently to medicine; we burden the circulation with foreign elements, increasing the labors of the excretory organs which have not only to eliminate from the blood and discharge from the system the diseased products, but in addition, the poisonous ingredients of the medicines that the patient has swallowed.

Until within a comparatively recent period remedial agents were discovered and investigated by the empirical method alone, that is by experiment upon the patient, giving him a dose, and observing what followed; if the patient didn't die they felt encouraged, if he did die, grave doubts arose in their minds. The physiological action of the drug was not investigated or understood. The light of science did not shed its rays to help to a correct

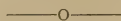
conclusion, and, as a consequence, the facts that seemed to be well founded, remained settled just long enough to be upset by subsequent experiment.

The little "street arab" might with agility climb a slim pole even if you put a brick in his hat. Yet we cannot say that the additional weight was of any great service. So the patient gets well sometimes, though we may have put a "brick" into his stomach. Thus it is by the empirical method of investigating remedies, we never know what to determine as to the effects following the administration of a medicine. A new era is dawning in consequence of the developments that are being made by the study of the physiological action of drugs upon the living organism. Science is lifting medicine out of the mud.

Since the doctor has brought to his aid a knowledge of the powers and action of the drug and what effect it will produce by being taken into the system either by the channel of the stomach or more directly, by being injected into the tissues, together with a better understanding of diseases, we have a more sure route to lead us to correct estimates and conclusions concerning remedial agents. It is not essential that an agent, to be remedial, has to be taken internally, nor must it be a drug. Topical or outside applications are extensively used. Foods, diet, air, light, sunshine, water, electricity, massage and many other valuable agents, are successfully used to prevent sickness or help to restore the sick man to a condition of health.

It will be our pleasure to present these things to our readers for their

consideration as opportunity shall afford.



OLIVE OIL.

BY E. R. SHIPP, M. D.

Among the Latter-day Saints olive oil occupies a peculiar or special position, as an article that is universally used by them in their ministrations to the sick. Their belief and practice of the doctrine of "laying on of hands," "anointing with consecrated oil," "and the prayer of faith shall heal the sick" is generally understood. But we wish to say a few words about olive oil as a remedial agent from a therapeutic standpoint.

The oil is obtained from the fruit of the olive that grows in warmer climates. The commodity we purchase in the market, as a general thing, has but little of the olive about it. Even in what is considered the best grades we probably get but little olive oil, pure and simple. Like everything else, nearly, that we use as foods, or drugs, it does not escape adulteration. There is, however, a peculiar feature in this case, that the article that is used as a substitute, in the manufacture of a first class grade of olive oil is an oil that is very similar and almost identical in its chemical properties and physiological actions to olive oil—hence it does not deteriorate so much as a remedial agent. The great bulk of "olive oil" that is sold in this country is obtained from the cotton seed that grows in the south; but, as already stated, its properties are very much like olive oil and answer the same purpose.

But there is another grade of oil sold extensively throughout the terri-

tory and used by the people to anoint the sick as well as give internally. It is usually put up in cheap, small bottles, what it is made of "goodness only knows." It is a miserable stuff, possibly a good deal of Chicago lard in it or something worse, and as a remedial agent it is not fit to put on a dog's foot—say nothing about a sick child taking it internally. Again, oil standing for awhile on a shelf in a warm corner, exposed to the air and heat of the room, in a very short time gets rancid and becomes decidedly unfit for use.

Various oils and fats are by topical applications used as emollients, to keep the skin smooth and soft and prevent it from cracking. Lard, mutton tallow and goose grease are employed very frequently in domestic practice and with good results.

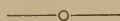
For the purposes of general application of an oil to the skin, olive oil is the best. The oil will be rapidly absorbed by the skin and the nutrition of the body assisted. The adipose tissue situated just under the skin and covering nearly the entire body readily appreciates it, so that inunctions of oil can be used to give a better rotundity and plumpness to the form where leanness has given a rather angular outline. This adipose tissue appears to be nature's store-house where she garners up her surplus against a time of want and when the demand is made for it by the condition of starvation or some wasting malady preying upon it, this fatty covering is the first to give up its substance, and as the situation continues the adipose tissue is used up and great emaciation follows. While these forces are operating to waste away the body, by the liberal applica-

tion of olive oil to the skin this tissue underneath in a measure at least is nourished, the wasting process is retarded, and the strength of the patient in some degree is protected. To get the best effects, the oil should be used profusely. In skin diseases where there are scaly formations and the skin becomes dry, the oil has a splendid effect. In wasting maladies such as consumption, protracted fevers, like typhoid, where it is such an object to keep up the nutrition of the patient, thoroughly anointing with olive oil is of decided benefit. Infants that are badly nourished and do not thrive well to rub them all over frequently and use plenty of oil, will have a fine effect.

It is in the eruptive fevers, as they are called, such as measles, scarlet fever, and the like, that we derive the greatest benefits by the outward application of olive oil as a remedial agent. In those diseases the skin is in a state of great heat and inflammation produced by the eruption. It gets very dry and the patient becomes extremely restless. I have seen cases under such conditions with the general temperature of the body several degrees above the normal, by a copious application of olive oil over the entire surface of the body that the temperature in a few minutes was very perceptibly lowered and the child from being in a state of restlessness, after the inunction, subsides into a calm and quiet sleep. It allays the burning heat of the skin and feels most grateful to the patient, it diminishes the restlessness, brings about a state of repose so favorable and necessary to recovery. Also in that loathsome disease small pox, where the skin is so overwhelmed by the erup-

tion, keeping it continually bathed in olive oil is attended with the best results.

The light of true science sheds its beneficent rays upon our understanding, experience properly founded confirms the truth and our faith becomes established. The Lord in His divine laws and regulations exhibits "in all His ways" an exalted degree of the "eternal fitness of things." And in the selection of olive oil for the "anointing of the sick" He has not deviated from the divine rule.



DISINFECTANTS.

BY DR. BROWN.

The developments that have been made during the last few years in the "germ" theory of disease have created an additional importance to the subject of disinfectants. As the processes or mode of infection and contamination of contagious diseases become better known, we are enabled to more successfully combat their inroads and institute prophylactic or preventive measures to stop the spread of the contagion.

It is very necessary for the welfare of the patient who is already stricken down, as well as for those who are exposed, that the poison, the "disease germinations," that are making such a vigorous attack upon his vitality, be destroyed as far as possible; for they have the power to increase or multiply with astonishing rapidity, and to an enormous extent, so that the forces of the disease are greatly augmented, thereby taxing the patient's powers of resistance to their utmost.

We have but to deliberate for a moment upon this serious condition to

become fully awakened to the weighty considerations of disinfectants—the means whereby the “germs” of disease are destroyed. Notwithstanding these facts are so well established by scientific research and clinical experience, it is most astonishing to find that disinfection, even among the educated and well-to-do, is so generally disregarded.

During the past season there have been planted—yes, bitterly planted—throughout our Territory enough “germs” of scarlet fever, typhoid and other contagious diseases by non-disinfected stools alone being deposited about the habitations of the people, that will require years of hard, diligent effort to destroy, and as a result of our carelessness in this thing, you will see periodical epidemics breaking out and spreading through our settlements, leaving the dead in their wake and filling our homes with aching hearts. We interest ourselves, and very properly, to devise some means to destroy the moth that invades our orchards, and blights our choice apples, but we give no heed to that other “germ” that is so liable to make an inroad into our habitations and carry from us the “apple of our eye.”

Organic matter, whether from the animal or vegetable kingdom, in a condition of decay, is the hot-bed where the elements of disease thrive.

The phenomenon of living and dying, growing and decaying, is going on continually; it is nature's eternal round. Organic things live but to die. Such substances are perishing all around us. We must see to it that we put all this decaying matter beyond the reach of contact, or render it innocuous by disinfection.

An air of sweetness and purity should surround our dwellings.

The man that places the chicken coop, cow pen, pig sty and then baby's cradle in the same atmosphere has not yet learned the first lesson how to build a home. If he insists on having these things in the same yard with his family, he may find the arrangement to suit his convenience, but if he persists in it, ere long it may be that it will cost him some of his household, unless he is most persistent and thorough in keeping the premises disinfected.

In an early day, when these valleys were first settled by the Saints, we had plenty of room. There were not so many of us, which conditions were unfavorable for the propagation of the “germs” of disease, but now we find ourselves crowding together. To-day you will find more than one house on an acre and a quarter lot. This “jamming” together may suit commercial purposes, but it does not add to the longevity of the race. And again, the “germs” of disease, like the birds, have followed us and are getting a sure foothold in our surroundings, and if we hope to dislodge the intruder we must fight and fight valiantly, we must marshal the strong forces of sanitation armed with the weapons of disinfection and drive the enemy from its entrenchment.

Nor will it answer the purpose for some to be vigilant in these matters and the neighbor indifferent. We might look after our orchard ever so closely, but the shiftlessness of a neighbor whose trees were contiguous to our own would be amply sufficient to keep us stocked, and our efforts to

clear our orchard of the pests prove unavailing.

What is there about the premises to disinfect, and what do you use for the purpose?

In answer to the first inquiry we would say: all your out-houses, stables, pens and corrals must be kept clean. The manure or excreta of all animals be removed far enough away so that their influence cannot reach the home and as soon as possible covered or mugged with the soil—the prince of disinfectants. All vegetable waste and slops from the kitchen that are not fed immediately to animals should be treated in like manner. The out-house or water-closet must be particularly looked after. Let nothing that is decaying or rotting remain about the premises. Any water that is stagnant is equally pernicious and unhealthy and must be removed. If you have a cellar under your house (by the way, it is the worst place in the world for a cellar, that is, unless everything you put into it is as hard and imperishable as a piece of glass) thoroughly ventilate it—let a current of fresh air search every portion of it, and frequently, and let no organic matter in it go to decay. If you keep any fruits or vegetables in your cellar, and you are living over the cellar, watch them closely, and on the first signs of perishing promptly take them out. And be as prompt as you may, if you find that decay has already set in, you are just that much too late, for those elements that are generated by such stages of decomposition furnish an excellent abode for the seeds of disease.

Having attended to the surrounding and outside conditions, let us go

on the inside, and right here upon the threshold let me emphasize, you cannot have too much pure, fresh air, enlivened by a sufficiency of sunshine, in your house, and the sicker you are the greater is the necessity for a liberal supply.

O, how many in this bright world of ours, a world so full of light and life, have died because they were deprived of the vitalizing powers of the pure oxygen of the atmosphere and sunshine, and there was plenty of it too, but it was on the wrong side of the ceiling and walls that enclosed them.

It is when there is sickness of a contagious or infectious character in the house that requires us to be on the alert. The vessels that receive the stools or excreta of the patient should contain a disinfectant, great care and attention should be observed in this particular and yet perhaps there is no one thing pertaining to disinfection that is so much greatly overlooked in domestic practice where the physician is not employed. It would be a “funny” doctor indeed that would fail to give the subject proper attention, but I fear there are some just such careless specimens, that are trying to make a living by “feeling the pulse and looking at the tongue,” this, and a small bay of “nostrums” constitute their stock in trade.

While the disease is progressing, the “germs” are multiplying rapidly and impregnating the air and every thing they come in contact with.

These sources of contagion must be destroyed or they will attack others or even the already prostrate patient, intensifying his own malady. You will perceive the great impropriety of hav-

ing more than one patient in the same room if it is possible to avoid it.

I remember in my migrations a few months since, I was called in to see some sick children supposed to be down with the measles. Sure enough, there they were, four little urchins all "red hot" with the measles and all in the same bed. The room they were in, was an eight by ten affair, low ceiling, one small window, with the door, comprised the openings. They were being managed so as not to take cold by keeping the windows and door tightly closed. And a rousing fire in the stove (it was cold weather) to keep things *comfortable*—imagine if you can, the "zephyr" that struck us as we opened that door. What do you think the theory of the parents was? There were other beds and other rooms in the house. They were very anxious not to expose the other parts of the house to the "disease." There were two other older children and the baby they were in hopes of saving from "catching it." And they felt pretty certain they had got the trouble corralled; if so, it was at a fearful risk to the afflicted ones.

Certainly, to quarantine is a most excellent measure. But such quarantine! It is perhaps not necessary to say that other arrangements were made, and the little sufferers given a better show for life.

All clothing and bedding used about the sick should be disinfected—the furniture and the carpets (if they have not been removed) not overlooked, also the walls of the room and if papered (if the sickness has been of a malignant type) the paper should be removed and the walls cleansed.

If the patient dies of any disease of

a grave or pernicious character that is highly contagious, the body should be wrapped in a sheet thoroughly saturated with a disinfectant, so that the "disease germs" that escape from the corpse might be destroyed.

Nurses and parties that visit the sick, and they ought to be as few as possible, should be very particular to change their clothing, wash in water containing a disinfectant, taking all possible precautions before they attempt to mingle with those on the outside, as a neglect of these things would tend to spread the disease.

To faithfully observe all these conditions may appear to be very irksome and unwarranted, but anything short of it will fail to stamp out contagion—in fact, do the best we may, there will be times when we will be baffled in spite of all our efforts. But if we leave these forces unbridled—if we make no attempt to stay them, they will sweep through our towns and cities like the winds down our canyons and their populations ravaged like the dry leaves of autumn.

The next question to engage our attention is, what shall we use for the purposes of disinfection? For the out-house dry dirt or dust is most excellent and has this in its favor, it is as "cheap as dirt." Chloride of lime is another splendid agent to use about the outside premises and is not expensive, and for the inside I cannot do better than quote the best authority I have at hand upon this important subject, taken from the proceedings of the Thirteenth Annual Meeting of the American Public Health Association as I find them recorded in the *Philadelphia Medical Times*.

"THE most efficient means for disin-

fecting the discharges of the sick suffering with infectious diseases, such as cholera, typhoid fever, smallpox, diphtheria, etc., are solutions of chloride of lime, 1 part in 25; corrosive sublimate, 1 part in 500; carbolic acid or sulphate of copper, 1 part in 10. For deodorization and disinfection of vaults and cesspools, chloride of lime mixed with plaster of Paris in the proportion of 1 part of chloride to 9 parts of plaster is recommended to be freely scattered over the contents of the vault daily.

“For clothing or bedding which has been in contact with the bodies of the sick, boiling in water for at least half an hour will be an efficient disinfectant. If the articles cannot be boiled, exposure to superheated steam for one hour, or, preferably, destruction of the article by fire, is recommended. Fumigation with sulphur, as ordinarily practiced, is not to be relied upon. (I have seen most excellent results from the thorough fumigation of the apartments of the sick, by the fumes of burning brimstone, and the burning of sulphur occasionally about the house, is a most excellent prophylactic measure in times of health.—Ed.) Articles of furniture exposed to infection should be several times washed with a solution of corrosive sublimate, 1 part in 100; or carbolic acid, 1 part in 50.

“For washing the bodies of the sick, a solution of chlorinated soda, diluted with nine parts of water, may be used. A two-percent. solution of carbolic acid may also be employed for this purpose.

“The bodies of the dead should be immediately enveloped in a sheet thoroughly saturated with chloride of

lime, corrosive sublimate, or carbolic acid solution, to prevent diffusion of the disease germs.

“During the occupancy of a sick-room no active efforts for disinfection, except thorough ventilation, are desirable; but after the room is vacated it should be thoroughly fumigated with sulphurous acid gas, burning three pounds of sulphur to every one thousand cubic feet of space, and carefully closing all openings. After twenty-four hours all surfaces should be washed with a solution of corrosive sublimate, one to one thousand, and thoroughly ventilated before again occupied.

“In considering the causes which lead to this frightful mortality, Dr. Chancellor said, ‘Pure air is as essential to the health and vigor of the animal system as wholesome food and drink. When contaminated by stagnation, by breathing, by fires, or artificial light, such as candles, lamps and gas, it operates as a slow poison and gradually undermines the human constitution. Too little attention is paid to proper ventilation of living apartments. In some houses the windows are unopened for weeks and months together. Crowds of tailors, seamstresses, weavers, shoemakers and other mechanics employed in sedentary occupations are frequently pent up from morning until night in close and sometimes damp apartments, without even thinking of opening the windows for a single half-hour for the admission of fresh air. Consequently they are continually breathing an atmosphere highly impregnated with the noxious gas emitted from the lungs and the effluvia perspired from their bodies. The sallow complexions of such persons plain-

ly indicate the injurious effects produced by the air they breathe, and, although its pernicious effects may not be sensibly felt, it gradually preys upon their constitutions, and often produces incurable consumptions, which are frequently imputed to other causes.

“It cannot be denied that some occupations are more unhealthy than others. There can be no doubt that the inhabitants of cities are less hardy and more subject to pulmonary diseases than those of the country. City people, speaking generally, are pale, of lymphatic temperament, and their muscular system is but poorly developed. Want of a free circulation of a pure, uncontaminated atmosphere is the most powerful cause of this. In addition, in cities the passions are more excitable, indulgence in eating and drinking is more common, with many life is sedentary, and the occupations are altogether more unhealthy than those in the country. Take, for example, those engaged in mercantile life,—merchants and clerks. These, for sanitary purposes, may be divided into three classes: first, those who have but little exercise, such as book-keepers; second, those who have exercise but are confined to their stores in a superheated, unhealthy atmosphere, as, for example, salesmen; and, third, those who have exercise in the open air, or who do out-door work. In the first class the digestive organs suffer, the next from diseases of the pulmonary organs, and the third from the prostrating effects induced by over-mental or bodily exertion, or by corroding care.

“Persons habitually breathing a dust-laden atmosphere, as the artisans

and laborers in some manufactories, are more especially liable to pulmonary complaints. The average duration of life among the dry-grinders of forks is 29 years; of razor-grinders, 31 years; of edge-tool grinders, 32 years; knife and file-grinders, 35 years; and saw and sickle-grinders, 38 years. Out of every one hundred sick among the needle-makers, 70 are consumptive; and among the file-makers, 62. Taking the steel-grinders all around, a fraction over 40 in the hundred are consumptive, while one-half of the lithographers—workers in copper—have the disease. Grindstone-makers rarely live over 24 years, and the average life of the flint-cutter and glass-polisher is under 30 years, and that of the stone-cutter, 36.

“The problem of how to face this evil is, simply, how to environ each worker in the prosecution of his work with a pure atmosphere. While waiting for legislatures to accomplish this by legal enactments, it is extremely desirable, and even necessary, that consumptive hospitals should be established in every city. While European cities have provided for this purpose, American cities have generally failed to make such provision. It would be a great and truly useful work to devote an edifice in every large city to so benevolent a purpose.”

On the subject of steam as a disinfectant for clothing I make the following extract from the *College and Clinical Record*, April, 1887,

“At the request of the German Government, Koch and Wolthurzel experimented upon the comparative disinfecting value of dry heat and steam. They reported, according to the *British Medical Journal*, that, by

the direct application of steam at 212° Fahrenheit for from five to ten minutes, even the virulence of dried anthrax blood was destroyed. Earthspores, which have a reputation for tenacity of life at high temperatures beyond all others, were devitalized by fifteen minutes' exposure to steam, while they resisted the action of dry heat for three or four hours at 302° Fahrenheit.

"Dr. Russell, medical officer of Glasgow, says that, during the last ten years, over a million of articles (from persons affected with every kind of contagion known in this country) have passed through the Glasgow laundry, and that he has never known a case of interchanged disease, although the women engaged in the laundry have occasionally suffered from handling the linen before the boiling process."

I will close this article by giving you a disinfectant for domestic use suggested by the *American Druggist*, a reliable authority:

Compound Solutions of Zinc and Iron.

Sulphate of Zinc, commercial.	16 tr. oz.
Sulphate of Iron, crystallized.	16 tr. oz.
Hypophosphorus Acid (10 per cent.)	120 minims
Oil of Thyme	60 "
Naphthol	15 grains
Water	enough to make 5 pints

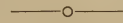
"Dissolve the two Salts in 4 pints of boiling water, add the Naphthol and the Oil of Thyme, and shake or stir the mixture frequently while it cools. Then add the Hypophosphorous Acid and make up the volume, with water, to 5 pints. Shake or stir the mixture frequently during a few days, then filter it through a wetted filter.

"This solution will have a very handsome green color, and resist oxidation for a long time.

"For use, it may directed to be di-

luted with from 5 to 10 parts of water, the strength depending upon the work it is expected to do."

You can get your druggist to compound the disinfectant for you or you can get any proportionate amount of the ingredients named and mix it yourself as per directions.



SCARLET FEVER.

BY E. R. SHIPP, M. D.

Scarlatina, or, as it is commonly known, scarlet fever, is met with in all localities. In the most quiet nooks and recesses here in the mountains where the people have built habitations, this contagious disease has tracked them and made an inroad into their houses. Among the number of fatal diseases that invade the nursery of the household scarlet fever stands in the foreground, and when it takes its departure so often does it leave behind saddened hearts at its cruel work, as many of our homes can testify. How earnest we should be to inform ourselves how we may best barricade against its approach and turn aside its poisonous shaft. If we hope to accomplish anything toward lessening the fatality, that attends this malady our road lies in the direction of a better conception of the disease itself—how it should be handled, when it once has planted its fangs, and the prophylactic measures that should be instituted. It is very contagious, and where it gets a start it should be closely watched to keep it from spreading. The poison or disease germs retain their vitality for a long time, and when they get into clothing, require energetic disinfecting to be destroyed.

This is eminently a disease of childhood although it sometimes attacks

the adult. There is no question but that it is very grave and dangerous in character and should be given prompt and proper attention at the outset. Scarlet fever is a self-limited infectious disease and is attended with a peculiar rash or eruption that comes out upon the skin. The time is short, after the exposure to the contagion, ranging from one to seven days, before the person is attacked by the disease. The onset is sudden, commencing with a decided chill and vomiting. In writing up various diseases and giving symptoms, we refer to typical cases, but there are many cases that are not typical, when symptoms will vary or some of them be absent. These first symptoms are attended by very high fever, the skin dry and hot, a rapid pulse, 140 to 150 being common. The eruptions are distinctive. The skin becomes very red, or in blotches, and in these blotches you will see points of a darker hue. By the end of the second day the body will be covered all over by the rash, there will be no healthy skin intervening. As the eruption subsides, the outer skin or epithelium comes off in fine scales and larger flakes. This desquamation commences where the eruption began on the face and neck. These casts are thoroughly impregnated with the poison of the disease, hence are very infectious and should be burnt or disinfected.

Sore throat is one of the symptoms that sets in with the eruption. These are the chief symptoms that enable us to recognize a case of this disease. When a child is first taken sick with this complaint it should be removed or isolated from the rest of the family, placed in a room by itself and every-

thing in the room taken out except the bed and necessary furniture. The child should be quietly kept in bed and at rest as much as possible. Only those that have the care of the child should enter the room, and when they leave to mingle with others, should change or thoroughly disinfect their clothing. It is astonishing how easily the contagion of scarlet fever is carried about and to long distances by clothing that has been exposed.

One of the conditions that demand attention is the high fever and rapid pulse. Professor Bartholow recommends for the fever "the tincture of aconite root (half a drop to a drop every hour according to age) and preferably the tincture of digitalis, one to two drops every hour", as the most useful remedies. Professor Dacosta has as much confidence in the carbolic acid treatment as in anything ("one-half to two drops every hour or so according to age"). These are powerful agents, and, if resorted to, must be handled with caution.

It is in this disease especially that we get fine effects from the anointing with olive oil. While the fever is so high and the skin is dry and the patient restless, bathe or sponge off the body with tepid water, to keep the skin clean, followed by a thorough application of the oil night and morning, and, during the day at intervals, when required. This treatment has given complete satisfaction. After desquamation sets in the patient should have the oil applied daily with a few drops of carbolic acid in it for the purpose of disinfection. As has already been observed, be very particular to burn the epithelial scales that are shed from the skin, and disinfect the stools of the

patient with carbolic acid.

For sore throat, cold water or ice applied externally is good, and use chlorate of potash as a gargle.

As to general treatment, give your patient plenty of good, pure air, and keep the apartments properly ventilated. The diet should be mild, easily digested food, broth, milk, and a liberal supply of water to drink to keep the kidneys acting. This disease is very liable to be followed by serious sequæ, such as heart disease, kidney troubles and rheumatism. To keep the child in bed, or in the house some time after it is apparently well enough to be about, and prevent any exposure to dampness or change of the weather, are the best preventive measures that can be suggested.

There are different types of scarlet fever, some milder than others, but in any case, too great precautions cannot be observed. Various complications are liable to arise in the course of the disease which have to be treated as they present themselves. In mild cases you must be careful because they sometimes are followed by albuminuria and general dropsy, acute rheumatism, and other complications.

SELECTIONS.

DO NOT FORGET TO GIVE THE BABY A DRINK.

ALL the liquids cannot be substituted, profitably, for water to quench thirst, in order to satisfy the demands of our nature. Particularly, does this apply to milk. The Dutchman may get along for a time on his "lager" or the Frenchman on his "light wines," but if either should undertake

to drink milk as their only beverage, he would soon have his stomach crying out for thirst.

Milk, to all intents, is a solid food. When it is taken into the stomach, the water of the milk, is soon absorbed by the absorbent vessels of the stomach, while the residue, the casine, its chief bulk, coming in contact with the juices of the stomach, is converted into curds, and the processes of digestion commence. This condition soon produces the sensations of intense thirst. Now the baby's stomach forms no exception to this rule. Many are the times, a hearty well nourished child will cry out at the top of its voice, when the poor mother hastens to the rescue, although not long since, she "nursed it all it would take," but the child absolutely refuses to "indulge any further." "Oh! the darling, what can the matter be—surely it must be sick"—while all this time it is suffering the pangs of thirst, and is only crying for a drink. Yes, mothers, do not forget to give the baby a drink. As with yourself, awhile after dinner, the sensations of thirst make themselves felt, and you want a drink, it is just the same with the child.

"There are many cases of indigestion, due to weakness or insufficiency of the child's gastric juice, which would be greatly benefited, or even cured, if the child were allowed an occasional drink of water."

NO DOUBT OF SUCCESS.

Perkins—Well, Smith, after many failures, I have at length struck a dead sure thing!

Smith—I'm glad, indeed! What are you at now?

Perkins—I'm an undertaker.

Salt Lake Sanitarian

A MONTHLY JOURNAL OF MEDICINE AND SURGERY,

Devoted to the prevention and cure of diseases and injuries, and the promulgation of the laws of health and life.

DRS. SHIPP, EDITORS.

SALT LAKE CITY, APRIL, 1888.

EDITORIAL.

INTRODUCTION.

It is with no little apprehension that we launch the SANITARIAN upon an untried sea.

The domain of medical journalism with us has not, hitherto, been invaded. To publish a Journal of Health, such as we contemplate, has received our careful deliberation—and we have often asked ourselves the question, can we present anything to the public that will be of interest and profit.

The great value of a proper knowledge of Hygienic and Physiological laws that govern these mortal bodies of ours, together with the facilities that are offered by the publication of a magazine devoted exclusively to these subjects in order to disseminate such information among the masses, are the considerations that have induced us to embark in this enterprise—hoping we may be enabled to present such subject matter as will secure sufficient encouragement from a generous public as to justify us in our venture.

One of the prominent causes of failing health, that is in the power of man to avoid, is the transgression of known physiological laws. This violation in some cases is made when the

individual knows better. But in many cases there is an entire lack of understanding. Among the developments that have been and are being made in the various sciences, there are none more pronounced than those pertaining to disease and the means of prevention and cure. No more earnest workers are to be found in any of the departments of science than they who are engaged in the investigation of those subjects that pertain to man's physical condition and good health.

A man's whole life is tinged, and the results of his labors and life here on earth are determined, in a great degree, by the health and vigor of his body.

Valuable facts are daily brought out by the researches that are being made and it will be our earnest endeavor to keep abreast of the times and give to our readers such information as will be of interest and benefit. We hope to accomplish a work in curbing the carelessness of the youth who have their lives before them, by educating them to a more faithful performance of the duty they owe to themselves of preserving their bodies, that by increasing their years and augmenting their powers their lives may be adorned with better works. To educate the people in the laws of life and sanitation will be the aim of the SANITARIAN. The care of the sick and treatment of disease will be an important factor of our labors and will receive careful attention. We are tied to no exclusive dogmas but will endeavor to advance only such principles as are established in the light of science and have the sanction of professional authority.

We find ourselves here in the midst of a growing population, these mount-

ain vales are dotted with flourishing towns and cities, but, notwithstanding our salubrious climate and healthy surroundings, disease invades our homes and death stalks through the land. Nor is it only the aged, after having lived their three score years and ten and have literally worn out the machinery after a long and energetic life, "that fall by the way," but the bud and the early flower are laid low by the "scythe of Time." If we understood ourselves better and gave intelligent heed to the approach of danger, not always would the "reaper" be enabled to "gather in", but instead many precious years could be added to our lives. But the failure to understand or heed the warning note, brings upon ourselves that pathological condition from which there is no escape. Violated law demands its wage. Think you, these things are not of sufficient importance, yea, are not worthy of our closest attention? Ask the invalid, who in the very prime of life is prostrated by the hand of a wasting malady, with no hope of relief—listen to the answer. They say "in time of peace prepare for war;" of far greater import is the declaration while we have health strive to keep it—for it is a thousand times easier to preserve our health while we are in the possession of it than to regain it when once lost.

The aspirations of the SANITARIAN will be to serve as a beacon light to warn the frail barks freighted with human lives of the shoals and snags that abound in the stream of time.

EXPLANATION.

It was our expectation to issue the SANITARIAN in April, but circumstances intervened to delay us until

May. However, we have dated our first number April as we desire to complete the year by April next. We do not think it will be objectionable to our patrons inasmuch as they will receive the twelve numbers in the eleven months. We hope in a short time to be up to date.

OUR PLAN.

We have given you a representation of the variety of subjects, as far as our space permitted, that we design to treat upon from time to time. But there are many other topics in practical physiology and hygienic regulations that will be introduced in the future as we have opportunity. We offer to our friends an invitation to ask us questions on any of these subjects and will be pleased to answer such questions through the SANITARIAN, as have a general interest.

Any suggestions to help us improve, would be gratefully entertained.

DISEASE.

BY DR. BROWN.

The condition of disease is a somewhat difficult task to technically define. Yet we all have in our minds a pretty clear, practical notion of what is meant when we hear the word spoken. Some writers tell us it is "perverted nutrition" or "the perversion of the normal processes of the economy," etc. For our purposes you will understand when we are speaking of disease we are alluding to "some kind of sickness."

It is an heir-loom we have all inherited—it is a part of this mortal existence—we have it to meet, and some preparation, some general information, a better education than prevails, should be had to establish the best conditions

possible, that disease might be at the minimum, that we might have as little of it as possible in our midst.

We discover that a certain condition of things exists in health and when there is a marked departure from that standard we know that something wrong is going on, that sickness threatens.

In order to be enabled to determine correctly the symptoms of disease, we must have some knowledge of what is the normal or healthy state, at least understand the general conditions of a well person. In such an individual, the heart of an adult beats about 70 or 75 times a minute which we can tell by the pulse at the wrist. The pulse of infancy is much more frequent, reaching 110 to 120 beats per minute, while the child of three or four years will have a pulse of about 90. Excitement or exercise will quicken the pulse when there is no disease present.

The breathing of the adult is about 18 or 20 times per minute—infants breathe more irregularly, about 35 times in a minute—children 5 or 6 years of age, 22 times in the same length of time. The tongue is moist and free from “coating.” The normal temperature is given as 98 and six-tenths Fahr., children but slightly higher. These are some of the leading features and conditions of a healthy person. And when we discover a marked departure from this state of things we may know that disease approaches. In almost every disease there are some prominent symptoms that can be observed by the ordinary nurse while there are many other signs of a diagnostic value that can only be discovered by the skilled doctor.

The position we desire to assume is that there is much general information about diseases that should be understood by those who have the care of the sick and who are they—if not our wives and mothers, and what right-minded young lady in our midst that does not, some day, expect to occupy that honored position?

We were discussing our enterprise the other day with a bishop of one of the prominent wards of the city when he remarked how difficult it would be to get the healthy, robust young folks to give such things any thought, and, doubtless, he was not far from the mark, but we feel that an effort should be made in this direction, to have our young people give this subject some attention.

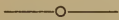
I would not cloud the young sunny life with forebodings of approaching pain and anguish, or weigh down their light hearts with the dread of disease, yet to fortify them somewhat would be prophylactic. When the wails of the “first babe” fall upon her ear and the feeling that all is not right, hangs about her, then the young mother would give more for a little understanding in the premises than to be enabled to rattle from the “key-board” the intricate measures of a mazy waltz, would give more to paint the rose of health upon the tiny cheek than to place upon the canvas the tints of the most delicate flower.

There are premonitions of diseases that give us warning of their approach—then is our opportunity to ward off its attack. Here it is that our information would be so available. It is in the early or first stages that disease is more amenable to treatment. It is a splendid idea to get a good start in

any kind of a race, especially is it an advantage to get the first "lick" in a tilt with disease.

There are some diseases for which we have specifics for their treatment, something that we can give that will cure, as, for instance, quinine will "stop the dulls." But for the great bulk of maladies there are no known remedies or specifics that will abort or cure. These diseases run their course and the attendant treats the symptoms and necessities as they arise. Certain forms of disease are almost constantly with us, and it would be profitable if we would make ourselves familiar with their diagnosis and treatment.

It is our purpose to discuss those that prevail in our own locality, here in the tops of the mountains as rapidly as our space will permit. There are many general principles pertaining to the treatment of disease, that we think we can present more forcibly when we are writing up some special or particular malady, that will leave more lasting impressions.



NEW MODE OF TREATING BOILS.

It is hardly necessary to tell you what a boil is. There are not many that could not give at least some little experience of their own concerning the unwelcome visitor. But we desire to call attention to a comparatively new mode of treatment. Further back than the "memory of the oldest inhabitant reaches" we learn by the records that poulticing and cutting with the knife, were resorted to, as the best and only means of relief and cure (and poulticing to-day is the universal domestic practice). No difference

how early we discovered the first stages or formation of the boil—if it once started our conclusions were that it was "ticketed all the way through," no such thing hoped for that it could be absorbed or "set back." But the quickest way out of the trouble was to hasten the suppurative stages, "bring it to a head" by rotting it out with shoe-maker's wax, sugar and soap, or flax-seed poultices. This was a painful and tedious method and in many instances days and nights were spent in great pain, waiting for it to "come to a head" and break, or enduring the operation of having it cut open—which operation in the case of children of sensations was sorely dreaded.

There is another mode of treatment that is spoken of very highly, to which we wish to call your attention. It is the application of carbolic acid which it is claimed will abort the boil if it has not proceeded too far toward supuration, or that it will speedily stop the inflammatory process, thus preventing the spreading of the inflammation and destruction of the tissues. It is claimed the carbolic acid destroys the minute organisms that are producing the difficulty.

This new treatment consists in the local or topical applications of a strong solution of carbolic acid or by injecting the acid into the structure of the boil itself. M. Verneuil, a French surgeon, after a life time experience has settled down in his treatment to the application of carbolated powders for all kinds of boils and has discarded the use of the knife.

Dr. C. G. Carleton gives his views on this subject in the *Medical Record* Mar. 17th, 1888.

"Sir: The editorial in your issue

of February 25th, in which you called attention to the experience of M. Verneuil in regard to the treatment of carbuncle without incision, is of practical interest to all. As is well known, Sir James Paget, so long as 1869, in an article in *The Lancet*, condemned the treatment by incision, and I had supposed his methods were extensively followed. A method involving the same principles as those of M. Verneuil, but differing in detail, is one which I adopted several years ago, and have followed since, with much satisfaction. A man with a carbuncle on the back of the neck consulted me at my office, and as there were already some half-dozen small openings, it occurred to me to apply within the openings Cattey's solution of iodified phenol, which was standing on my table for gynecological use. This solution consists of the scales of iodine one drachm, to carbolic acid crystals just liquefied by water, four drachms. I wound a probe with cotton, and, dipping it in the solution, thrust it in all directions into the openings, and as well as I could, saturated the sloughing tissues with it. I gave the man tonics, and no opiate, and that night for the first time he slept; and a few days, with a couple more applications of the local treatment, sufficed for his recovery. Since that time I have used this treatment in several cases of carbuncle, and always with relief to the pain. The anæsthetic effect of the strong carbolic acid, and the caustic stimulant effect of the combination, seem to be just what is needed in this painful and indolent disease. I think I have sometimes aborted furunculi and hordeoli by applying this in the early stage to the apex of the swelling, and

after a boil is opened, its application to the interior is useful. I usually give quinine in tonic doses, and sulphide of calcium, and I think that the suggestions of Sir James Paget, that, if able, it is well for patients with carbuncle to keep in the open air a part of each day, and to eat moderately of easily digested but nutritious food, are eminently wise."

Dr. Jno. B. Richardson of Louisville, Ky., speaks highly in favor of carbolic acid. *Med. Record*, Aug. 13, 1887.

"In the Louisville *Medical News* of June 25, 1881, I published an article under the caption of 'Carbuncle—its Treatment,' contrasting the old, and then generally practiced method in cases of carbuncle; and giving in detail my method of treating it with parenchymatous injections of carbolic acid, assigning as reasons therefor its mode of action, its lessening the area of destroyed tissues: by its employment avoiding the use of the knife; its causing immediate mitigation of pain; its preventing the danger of blood-poisoning; and its materially lessening the duration of the affection. Concerning the action of this remedy I used this language: 'The carbolic acid (injection) has the effect of stimulating the circulation of the parts involved in the diseased action with which it is brought in contact, thus enabling them to repel this tendency to sloughing. It acts as a local anæsthetic, together with the external application of belladonna, removes to a great extent the usual necessity for the internal administration of sedatives to obtain sleep and lessen pain. . . . The antiseptic and antiputrefactive qualities of the acid reduces the dan-

ger of pyemic symptoms to a minimum.' As to the mode of using these injections I wrote: 'When first seen and recognized to be a carbuncle in its formative stage, make a small opening with a sharp-pointed bistoury in the centre of the swollen and inflamed structures just large enough to allow the easy introduction of the nozzle of a hypodermic syringe, which has been previously charged with a fifty per cent. solution of carbolic acid in oil or water, and after passing it in a short distance into the central forming slough, press the piston sufficiently to expel a drop or two of the contents of the syringe; retract and deflect the point of the syringe as you reintroduce, and repeat this until you have insinuated the solution into a considerable area of the interior of the commencing carbuncle.' Since 1879 or 1880, I have not only used carbolic acid injections to the exclusion of all other methods of treating carbuncles and furuncles—and published my article, above mentioned, in 1881—but have advised many of my professional brothers that this treatment with hypodermic injections of a solution of carbolic acid within the parenchyma of carbuncles and furuncles was far superior to any other mode of treatment yet suggested."

The application of strong carbolic acid relieves the pain of a troublesome boil and it is claimed that it will arrest its further development. If you have got a "pet" of that description it is well worth your while to give the carbolic acid a trial.

HE, who steals a little, steals with the same wish as he who steals much, but with less power.—*Plato*.

SELECTIONS.

THE CONDITIONS OF LONGEVITY.

Professor Humphreys presents in the *British Medical Journal* for March 10th; the final report of the collective investigation regarding aged persons. This report is based on the study of the family histories of eight hundred and twenty-four persons between the ages of eighty and one hundred years. The results of the investigation, as Professor Humphreys says, do not reveal anything very novel or startling, or give rise to fresh theories of longevity. They tend rather to dissipate certain ideas which are more or less current, though founded upon too limited observation, and to show that the maxims and laws which common-sense and sound reason would dictate hold good, and that, as a general rule, those persons live the longest who might be expected to do so. Thus, he adds:

"1. The prime requisite is the faculty of age in the blood by inheritance; in other words, that the body has been wound up, as it were, and sent into the world with the initial force necessary to carry on the living processes through a long period, that this is the case with every organ, and that the several organs are so adjusted to one another as to form a well-balanced whole. The various functions will be equably and harmoniously performed, and there will consequently, throughout life, be little cognizance of imperfection or ailment of any kind.

"2. The body is usually well developed, and though there are many exceptions to this, rather exceeds the

average standard of height. It is capable of much endurance and of quick and complete restoration after fatigue, this latter faculty giving the habit of, and probably the desire for, early rising; and with it also is associated a good power of recovery from the disturbances caused by accident or disease. The cerebral or intellectual powers accord with the general good quality, and the whole nervous system is active and energetic without being irritable.

2. "Owing to the inherent good quality of the nutritive processes, those degenerative changes which, in advancing years, always more or less diminish the elasticity of the arterial coats and other parts, are slow to occur, so that the pulse retains, in great measure, its softness, and the thorax its vital capacity, while stiffness of limb and general feebleness are late in their manifestation. The decadence of the teeth, which in the animal world generally sounds the death-knell, inasmuch as it deprives the body of the means of obtaining its subsistence, does not seem to augur much in the case of civilized man, to whom the teeth are less directly needed for his maintenance, while another cuticular appendage, the hair, seems to share to some extent, the enduring quality of the rest of the system."

To the foregoing must be added ordinary opportunities for living well and under sanitary conditions. Temperance in eating and drinking are essential, but especially in meat-eating and alcohol-drinking.

Professor Humphreys thinks that, on the whole, old age is an enjoyable period of life, when the body re-

mains sound and the circumstances of life are comfortable.

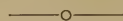
Some of the more interesting physiological data are as follows:

The average height was a little over five feet, seven inches; average weight, a little over eleven stone (154 lbs.)

The sight was good in 224 out of 267 cases; the hearing good in 188 out of 329. Out of 320 over one-half took a little, or a moderate amount of alcohol.

The average duration of sleep was seven and two-third hours. The pulse averaged about 70 to 74, respiration, 20 to 31 per minute. The arcus senilis was present in 172 out of 266 cases. The heart was affected in 42 cases; the lungs in 62; the brain in 25; the urinary organs in 119 cases.

The Medical Record.



PRECOCIOUS CHILDREN.

The precocious child is constantly saying things so epigrammatic and brilliant as to call out the wonder of admiring parents and relations; and oftentimes these strange, unnatural utterances are made the subject of remark in the presence of the child, and some newspapers often devote a column to this bright and abnormal child-talk. Nothing could be more harmful than such encouragement of a condition that is out of all harmony with healthful mental and physical growth. As a rule, the precocious child is of a strumous or scrofulous diathesis, with a fair, brilliant complexion, blue eyes, and golden hair, beautiful to look upon, according to popular standards. He is delicately sensitive to mental impressions, and alive to the conversation of persons

much older than he. He generally goes on in his unique career, outstripping his brothers and sisters, as well as his schoolmates, in the committing of tasks at school, as well as reading books far beyond their comprehension. This generally goes on until the age of puberty, when he begins to falter. The hectic flush is seen upon the fair cheek, the eye becomes more brilliant, and the finer and the spiritual elements come out with almost supernatural intensity. By and by a slight cough arrests the attention; and before the fond parent is aware, phthisis tuberculosis has laid the foundation for premature death. Now, what shall be done to save such children, and make them develop into healthy men and women? First we would say, Let them severely alone. By this we mean, do not encourage the precocious development by pushing the child ahead and showing the foolish weakness of exhibiting the child to visitors or displaying him at the performances of Sunday-school, concert or public-school exhibitions. We always pity the poor victims of such scenes, who come before audiences and recite standard poems or sing *cavatinas* to astonished crowds in heated rooms, amid the glare of gas-lights and dressed in tawdy finery irrespective of the climate or weather. When we look upon their pale faces and attenuated legs, we wish we had the power to send them home and put them to bed. Second, be simple with such children; keep them young and encourage them to talk child-talk, to read child-books, and to play with other children. Do not let them remain in the house in company with the older folk, when the bright sun is shining, and the other

children are romping upon the green with all the glorious freedom of childhood. Of paramount importance is the physical training of the precocious child. From the very nature of the case, all undue excitement must be avoided. The full quota of sleep must be insisted upon. No late hours should be allowed, full of the amusements that are such a strain upon the nervous system. The diet should be of the simplest character, consisting of food containing all the elements of nutrition, like milk, bread and soups. Confections, condiments, and fancy dishes should never be set before children. Give fresh air in abundance, and insure the child to go out of doors in all kinds of weather.

—○— SIMPLE CONSTIPATION.

What a notion some people have, if they find themselves a little constipated that they must "down a half dozen pills" and console themselves with the idea that the greater the drastic effect, the "heavier worked" they are, the more successful they think they have been in removing the difficulty and once more started themselves on the highroad to a normal condition of health. What a delusion! No doubt you succeeded in "shoving the gate open" but only to have it shoved back and fastened tighter than ever.

The forces of nature were silently at work to restore the condition to the state of normal. But when you send through the digestive tract these violent agents of purgations—and seriously crippling the functions of those organs that were concerned, the injury you did to the "primæ viæ" were far more serious and injurious than any momentary benefit you re-

ceived, to be followed by a reaction that increased the labors of the natural functions fourfold, in order to establish a natural condition. The original trouble has to be attended to and the additional bad effects of the physic. There is no question but there are conditions that arise where physic is required, but it is a situation always to be deplored and only to be resorted to when nature seems powerless to do the work.

The *Medical Record* has a pertinent article upon this subject we think will be profitable reading:

"Among the morbid states of the system for which suffering humanity seeks relief, often with but oftener without medical advice, none is probably of more frequent occurrence than constipation. From time immemorial to the present day countless expedients, including the use of innumerable drugs, have been resorted to in the endeavor to spur to renewed activity the flagging function of defecation. Sir Andrew Clarke has recently published some suggestive remarks concerning this subject, which, though not very original, nevertheless carry with them the weight of large experience and eminent practicality.

"Sir Andrew inveighs particularly against the ignorant and unskilful domestic management of constipation, with its many untoward consequences, some of which may indeed become quite serious. He might with equal propriety have denounced the unskilful, because routine, practice of dealing with this disorder still practiced by many medical men. The real mischief often begins by the self-conscious patient seeing imaginary evils impending from the accidental failure of

his bowels to act on some occasion when he has decided that they ought to have done so. The *maladie imaginaire* forthwith concludes that the only way to relieve his 'attack of constipation' is to take 'a dose.' And, he argues, the stronger the dose, the more effectual the cure. The medicine having operated, the bowels are probably found more inactive than before, which leads to renewed 'doses.' Soon the bowels fail to respond to natural stimula, and periodical discharges are excited only by repeated doses of stronger and stronger aperients. In the words of Sir Andrew, 'With few exceptions, no person has passed through his experience and fallen under the tyranny of aperients without finding his life invaded by a pack of petty nuisances which lower his health, vex his temper, and cripple his work.'

"Now, it is quite true that 'for the most part all these troublesome consequences may be avoided by attending to the condition of healthy defecation.' Chief among these conditions are a sufficient quantity of digestible food—including plenty of liquid—the presence of enough refuse matters in the colon, a decent regard to natures promptings, regular solicitation once every twenty-four hours. The co-operation of the will, and contentment with a moderate evacuation. Of course, this simple and natural regimen presupposes a healthy nervo-muscular apparatus, without which the function in question cannot be properly performed. Sir Andrew briefly discusses each of the above conditions; but they are so well known to the profession that it is unnecessary to dwell on any of them, except, perhaps, the

last-named—*i. e.*, contentment with a moderate discharge. On that score there is probably more ignorance than on any other point connected with the subject. According to Clarke, 'for a man of average weight, consuming an average amount of food, the average amount of fæces ready for discharge in twenty-four hours is about five ounces. This should be formed sufficiently aerated to float, and coherent.' There is not the slightest doubt that 'many people expect to have a much more abundant discharge, and are dissatisfied or anxious if they do not get it.' Such persons commonly resort to aperients in order to obtain 'relief' from their imaginary constipation, and thus invite the very condition for which they are making misguided efforts to escape.

To effect a cure in such cases, it is necessary first of all, to stop aperients, then to renew obedience to physiological laws. Sir Andrew's instructions to this large class of patients are so simple, direct and practical that we cannot do better than here transcribe them:

"1. On first waking in the morning, and also on going to bed at night, sip slowly from a quarter to half a pint of water, cold or hot. 2. On rising, take a cold or tepid sponge-bath, followed by a brisk general towelling. 3. Clothe warmly and loosely; see that there is no constriction about the waist. 4. Take three simple but liberal meals daily; and if desired, and it does not disagree, take also a slice of bread-and-butter and a cup of tea in the afternoon. When tea is used it should not be hot or strong or infused over five minutes. Avoid pickles, spices, salted or otherwise pre-

served provisions, pies, pastry, cheese, jams, dried fruits, nuts, all coarse, hard and indigestible foods taken with a view of moving the bowels, strong tea and much hot liquid of any kind, with meals. 5. Walk at least half an hour daily. 6. Avoid sitting and working long in such a position as will compress or constrict the bowels. 7. Solicit the action of the bowels every day after breakfast, and be patient in soliciting. If you fail in procuring relief one day, wait until the following day, when you will renew the solicitation at the appointed time. And if you fail the second day, you may continue the daily solicitation until the fourth day, when assistance should be taken. The simplest and best will be a small enema of equal parts of olive-oil and water. The action of this injection will be greatly helped by taking it with the hips raised, and by previously anointing the anus and the lower part of the rectum with vaseline or with oil. 8. If by the use of all these means you fail in establishing the habit of daily or of alternate daily action of the bowels, it may be necessary to take artificial help. And your object in doing this is not to produce a very copious dejection, or to provoke several smaller actions: your object is to coax or persuade the bowels to act after the manner of nature, by the production of a more or less solid-formed discharge. Before having recourse to drugs, you may try on waking in the morning, massage of the abdomen, practiced from right to left along the course of the colon; and you may take at the two greater meals of the day a dessert-spoonful or more of the best Lucca oil.'

"The author maintains that if this programme be faithfully adhered to, aperients will rarely be found necessary. Of course, Clarke admits that the use of drugs is not altogether avoidable. His own preference is for the compound aloin pill (aloin, gr. $\frac{1}{2}$; ferri sulph., gr. $\frac{1}{2}$; myrrh and soap enough to make one pill), taken half an hour before the last meal of the day. We fully agree with Dr. Clarke in believing that 'the particular agent employed for the relief of constipation is of much less importance than its mode of operation.' Whatever the remedy, it should act after the manner of nature in securing a daily formed stool. If in place of yielding to the importunities of patients demanding new and stronger aperients physicians would always take the pains to insist upon some such plan as outlined above, we have no doubt that there would be less trouble for and from constipated persons.

WARTS.

It is now fairly established that the common wart, which is so unsightly and often proliferous on the hands and face, can be easily removed by small doses of sulphate magnesia taken internally. M. Colrat, of Lyons, has drawn attention to this extraordinary fact. Several children treated with three-grain doses of Epsom salts, morning and evening, were promptly cured. M. Aubers cites the case of a woman whose face was disfigured by these excrescences, and who was cured in a month by a drachm and a half of magnesia taken daily. Another medical man reports a case of very large warts which disappeared in a fortnight

from the daily administration of ten grains of the salts.—*The Medical Press.*

TRUE TO HIS MOTTO.

Patient: Then you think it's all up with me, Doctor?

Doctor: I'm afraid so.

P.: Well, we must all die once, and I may as well go now as afterward. You're sure I'm going?

D.: Yes.

P.: Then let me have your bill.

D.: My bill! Mp dear sir, this is very unusual. You should give your thoughts to more serious matters."

P.: My motto has always been "pay as you go", and now that I am going I want to pay.

So he paid and went.—*Boston Courier.*

NEW METHODS.

The methods of some of the "Christian scientists" are thus depicted by a lady patient of mine who was beguiled into a seance: After I was seated opposite the faith-healer, she asked: "Do you believe on the Lord Jesus Christ?" "Oh, yes." "Well, He can relieve you!" Then putting her hand over her eyes she sat for about fifteen minutes repeating rapidly in a low voice. "Jesus Christ, Jesus Christ, Jesus Christ, Jesus Christ, Jesus Christ, Jesus Christ—two dollars, please." And I paid it willingly, thinking that I had learned what a fool I was very cheaply.

Kansas City Medical Index.

Upon the health of the body depends greatly the clearness of the mind.

SALT LAKE SANITARIAN.

A Monthly Journal of Medicine and Surgery.

VOL. I.

SALT LAKE CITY, MAY, 1888.

No. 2.

ORIGINAL ARTICLES.

NUTRITION.

BY THE EDITORS.

How to maintain the vital forces of the human economy and support the physical powers that sustain life are considerations that force themselves upon our attention. The nutritive processes by which the growth and development of the body are accomplished and the repair of the wear and tear of the living organism in the phenomenon of life are topics of fascinating interest and should engage our thoughtful investigation. They have as much to do with the health and good condition of the individual as any subject that can be found in the realm of physiology. A proper regard to be paid to the laws of nutrition is necessary to insure the finest development of the human being. Even in its earliest existence, during uterine life, it is seriously effected by the kind of nourishment that is furnished by the mother for its growth. This is determined by what she eats as we shall see later on.

The body of man is composed of certain elements in relative proportions. These conditions are maintained by different kinds of food which, when eaten, are changed by the process of digestion into a condi-

tion that the various elements of the food that enter into the formation of the different parts of the body can be appropriated. This is effected by means of the circulation and is called by physiologists, secondary assimilation.

The various kingdoms of nature—the mineral, the vegetable and the animal are all engaged in giving the variety of food that is used by man. From the mineral we derive chloride of sodium or common salt, phosphate of lime, water, etc., that enter into the formation of the different tissues. The heat and force required to sustain life are obtained from the carbon compounds such as starch, sugar, fat, etc. For the formation of the flesh or soft tissues the supply comes from the nitrogenous foods, those that contain principally albumen, caseine, fibrin, etc. Of all the animal creation man seems to require the most diversified alimentation. His necessities in this regard are governed largely by his habits of life whether he follows an indoor, sedentary occupation or is actively engaged in outdoor work performing heavy manual labor—also, if he is living in a cold or hot climate. All these circumstances have much to do with the character of the diet best suited to his requirements. If we entertain a correct understanding of the

work and office of nutrition, our judgment will be materially aided in the selection of foods that will prove the most advantageous to us. And in order to fully appreciate the various conditions and wants of our bodies we must have some clear notions of the different stages and processes that the nourishment we take undergoes in the digestive track. We must know something about the digestion and assimilation that are accomplished by which the body can make its own, the elements of the food taken.

Prof. Bartholow writing upon this subject discourses upon the matter very clearly: "The ultimate uses of food are two: to construct tissues or repair them when destroyed by wear; to supply force—muscular, nervous, secretory, etc. The reception, digestion and absorption of food is called the primary assimilation; the utilization of the material for the growth and repair of the tissues, and by the organs as force, constitute the secondary assimilation."

The first step in digestion is to thoroughly masticate or chew the food. It is essential to easy digestion that the mass be reduced to a pulp or finely subdivided. While this is being done the saliva in the mouth becomes mixed with the food. This saliva contains an active ferment, ptyalin, which has the property of converting starch into sugar. When the food reaches the stomach it comes in contact with the gastric juice. This gastric juice contains an active principle of digestion called pepsin and hydrochloric acid. The part of digestion accomplished in the stomach converts the nitrogenous materials—albuminous constituents of the food into what

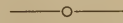
is called peptones. These are absorbed by the veins of the stomach and thrown into the circulation. Although fat is necessary to the stomach digestion, it does not undergo conversion in the stomach but passes with the chyme in the form of a coarse emulsion into the small intestines. When the food that is not yet completely digested reaches this part of the digestive track it comes in contact with the intestinal and pancreatic juices and the bile of the liver. When the process of digestion is completed, and the materials that are prepared for it, are taken up by the lacteal vessels and portal veins, they are thrown into the circulation to be utilized—while the excrementitious matters and refuse of the food are passed into the large intestines and excreted from the body. When the nutrition of the body goes on in the normal manner, there exists a certain ratio between the income and the outcome. The income consists of the albuminous and nitrogenous elements, fats, carbo-hydrates, salts and water of the food, together with the oxygen absorbed from the atmosphere. The outcome is made up of the excreta of the respiratory act, consisting of carbonic acid and water with a little hydrogen; of the perspiration composed of water and salts; of the urine which contains the nitrogen excreted from the body and a large quantity of saline matter and of the fæces composed of excreta from the immense glandular apparatus of the intestines and liver. In a perfectly healthy condition of the body, full grown, there should be an exact ratio between the income and outcome. The income should suffice to furnish the force necessary for the performance of the various functions

and to repair the waste of the outcome.

The subject of dietetics is receiving from the profession a much larger share of attention than formerly. It is known that the bony structure is failing—particularly is this shown in the early decay of the teeth. It is very easily accounted for. The Almighty when He formed the grains for the food of man endowed the coverings or shells of the grains richly in calcareous salts and those ingredients that form the bones and teeth of man. All of our cereals are so constructed as to contain in rich abundance the lime salts, carbonates and phosphates. But the way the people have their flour made those elements are nearly dispensed with. They make their bread out of the extra superfine flour and the residue that contains the best portion of the grain is fed to the animals. How can you expect to have good bones and teeth if you do not secure those ingredients in your food that will make them? If you furnish the growing teeth with those hard inorganic substances they will grow hard and strong, and will be enabled to resist those destroying influences that now so early in life deprive so many of their natural teeth. More good oatmeal, cornmeal, or cracked wheat, and good, fresh milk and less “cakes,” pastry and candy from the shops, will give a very decided improvement in the teeth of your children. The teeth begin to form very early in the life of the fetus, and it is very necessary that the mother should use the whole-wheat bread, and after the child is born the mother or nurse upon whom the child depends should use the whole grain in their bread food—as

there is no other way you can obtain a normal supply of these elements for the development of the bones and teeth of the child.

The subject of foods opens out a wide field that must be deferred for future discussion.



NURSES.

BY DR. MAGGIE C. SHIPP.

Salt Lake may be proud of the number and skill of her physicians, but I regret this cannot be said in regard to the *competent* nurses.

Professor Gross of Philadelphia on one occasion made the following remark: “Were I seriously ill and could have but one, the skillful physician or trained nurse, I would take the nurse every time.” By this can be inferred the high estimate he placed upon a competent nurse. I have often thought when hearing the question asked after the death of an individual, “Who was his doctor?” It would be far more just to ask, “Who was the nurse?”

Every physician in this city has felt indescribable anxiety on account of the lack of good nursing. What a contrast in his feelings when a competent nurse has charge of his patients. For many years poor nursing had to be excused, but we feel now that that day has passed. There are several physicians in this city who are willing to devote a portion of their valuable time to the training of nurses, so they may be relieved of some responsibility, and the sick receive proper attention. Too often we find ladies whose only recommend as a nurse is, she is anxious for higher wages, for it is known that competent nurses can demand

very liberal wages in this city. Let us consider a few of the first requisites of a good nurse.

A cheerful, pleasant countenance; a sympathetic soul yet resolute and determined; a sweet musical voice, or at least one who prefers the lower notes to the higher ones; a step quick, but lightness itself, a person who could move around the room without stumbling against the bedstead, or upsetting any article of furniture.

We prefer a frequent visitor of the bath-room and one who has a perfect aversion to dirty finger nails, for we know how much dirt and even contagious material can be carried under the finger-nails. It is not enough for her to pay all attention to cleanliness, but she must also *look clean*. I once heard a patient of mine remark, "Oh, I don't want her for a nurse, I couldn't eat any thing she would prepare for me, her hands and fingers always look so dirty." Nurses must pay more attention to little things. We all live in such a hurry in this world that little things do not appear as important as they should. She must not be a talkative person—at least not in the sick room. I remember telling a nurse I was always fearful of Sundays for as a rule the calling and chatting of friends were very harmful and patients were not so well on Monday. She was very particular to allow no visitors but she sat for four hours Sunday afternoon and related to the patient all the troubles of her life, emphasizing the perplexing and exciting scenes. Consequently a restless night and feverish Monday. The art of cooking should be understood, and especially the *great art* of serving the food in an enticing and tempting style. I care

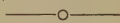
not how fresh and nutritious the food may be, if it be served in an untidy and slovenly manner the desire for food immediately leaves the patient.

A patient who for several days could not eat, at last fancied he would like some fresh oysters. The nurse, delighted at the suggestion, telephoned for a can. She emptied the entire contents in a dish and placed it before the sick man. A loathing expression of countenance was noticeable and he said feebly, "I am sorry that I have troubled you, but please take them away, I don't want to taste nor even see them." Had the nurse taken but one oyster upon a small dish, he probably would have eaten it and asked for more.

Remember that sunlight, air and bathing are essential to health. Don't deprive the invalid of the three greatest luxuries of life, which even the poor can command.

Another error I find so frequently committed is leaving the urine that has been passed by the patient in the bedroom for hours and often in an uncovered vessel. This should never be allowed in any bedroom but more especially urine passed from a person suffering from disease.

A flagrant fault, and one much to be condemned, is a habit of communicating to one patient the actions and thoughts of other patients. This fault will not be tolerated by persons of culture and sensitive natures.



HE that loses his conscience has nothing left that is worth keeping. And in the next place look to your health: and if you have it, praise God, and value it next to a good conscience.

BURNS AND SCALDS.

BY DR. BROWN.

One of the frequent accidents occurring in domestic life is that of getting burned or scalded. It is an injury of a very serious character, and when it is extensive, is liable to be attended with fatal results. The pain that follows a bad burn is of the most excruciating and agonizing kind, producing a severe shock to the system which it is difficult for the vital powers to overcome, and establish a reaction. With an advance of civilization, the building of factories, and the introduction of steam as a motive power, the risks to the artisans are proportionately increased.

The coal oil lamp has been a fruitful source of this calamity—the use of coal oil to help along a slow fire occasionally has made short work for the operator in such carelessness. These sad accidents should be a constant warning to “trim your lamps in the morning,” then you would not be under the necessity of having to handle the oil can after “lamp-lighting,” and it would be well to resort to some other means to “doctor the fire.” The carrying around of lighted lamps from room to room, especially by children as is so constantly being done, is certainly very reprehensible.

The kitchen with its pot or kettle of hot water in careless hands furnishes its full quota to this chapter of accidents. These and a host of other things that might be mentioned furnish abundant evidence of the prevalence of this injury in domestic life.

Writers on the subject of burns and scalds have variously divided or classified them into different degrees as

first, second, and so on, determined by the extent or amount of surface involved, or the depth that the burn has penetrated into the tissues or soft parts. But it will only be necessary for our purpose to speak of them as slight or severe.

The only difference between a burn and a scald is that the first is produced by dry, the other by moist heat. In the case of scalds the extent of injury depends largely upon the kind of liquid, as for instance, a scald from oil or a liquid with a greater density is more severe than if the same accident had been occasioned by water or liquid of a lighter density. If the burn is not severe enough to destroy the vitality of the skin and flesh, it will be followed by vesicles or blisters, unless it may be so slight as to only redden the skin.

The pain that attends a grave accident of this kind is agonizing, and in case of severe injury, produces a violent shock to the system, which of itself is often attended with serious consequences. The patient will get very cold, trembling and shaking, becomes thirsty and oftentimes is troubled with sickness of the stomach. In such cases the sufferings of the patient are most intense.

If the burn has occurred upon the trunk or body of the individual, and is deep, the danger will be from inflammation of the internal organs.

As the reaction from the shock sets in it will be attended with fever and sometimes delirium, the pain is of a burning sensation and unbearable. When recovery takes place after such a burn it is followed by terrible scars and deformities, particularly if it happens to be about the neck and face.

In such cases, if any relief is to be had, it will depend upon the skill of the surgeon.

The results of a burn depend upon the extent of surface it covers, or the depth it has gone down into the flesh, especially if it be upon the abdomen. When a large area of the skin is destroyed the danger is greatly augmented so important are its functions to the processes engaged in the vital phenomena of life.

There are many treatments in vogue for burns in domestic practice. Some of them give very good satisfaction. Nearly everybody has a cure for burns; in fact, there is great diversity in the profession as to which special treatment gives the best results. The first thing to be attended to in the case of a bad burn is to relieve the pain and depression by the use of anodynes and stimulants. On account of the great severity of the pain, the system tolerates larger doses of morphia than under ordinary circumstances. A dose of from $\frac{1}{4}$ gr. to $\frac{1}{2}$ gr. of morphia can be given in severe cases. There is nothing better for the relief of pain than morphia, and the best way to administer it is by the hypodermatic method; that is, to inject it under the skin by means of a hypodermic syringe. For the shock and depression, hot brandy and water are excellent. The stimulation supports the feeble, sinking powers of the patient until the natural forces can regain their footing.

For a topical application Prof. Gross was very partial to the use of white lead paint, applied by means of a soft brush to the burned surface. The great English surgeon Ericksen gave the preference to flour. He says, the burned clothes

having been removed, the patient should be laid upon a blanket and, whatever the degree of the burn, be well covered with the finest wheaten flour by means of an ordinary dredger. The flour should be laid on thickly, but uniformly and gradually; it forms a soft and soothing application to the surface. It is very necessary to have the burn protected as soon as possible from the air, and flour is generally at hand.

If the white paint is used it will be necessary to carefully open the blisters with a fine needle at the lowest part to let the fluid escape, being careful not to break the skin, as it makes a good protection; then after drying the part, to paint it over, covering this with a layer of carded cotton or old soft muslin and keep this in place by means of a bandage.

In these applications the great good accomplished is in having the air excluded from the injured part, which is a very great consideration.

To scrape finely a raw potato and apply to the burn, is a very good domestic remedy. The common baking or bicarbonate of soda is a very good remedy. When I was in Manti the other day I saw a little boy that got in the way of his mother (as little boys will do) and as she turned round, in her hurry she tripped over him, and gave him a liberal supply on the neck of the hot contents of a tea-pot she was carrying to the table. His neck and right breast were severely scalded.

The poor little fellow danced about (and furnished his own music) on account of the fearful pain he was suffering. A package of baking soda being the handiest thing we could get, after removing his shirt we placed the boy

upon a bed and then I covered the scalded part with the dry soda, and put over this a piece of old soft muslin, securing it by a bandage. In a very few moments the little fellow passed from a state of intense suffering to a calm, sweet sleep.

Another excellent remedy in domestic practice is olive oil and lime water. To prepare it take a lump of unslacked lime, say about the size of your double fist, and cover it in a vessel with water; when it is slacked and settled pour off the clear water and in this water mix the oil and apply the mixture to the burned surface and protect it as before mentioned. This treatment generally gives entire satisfaction.

It is not good to disturb the dressing any oftener than can be helped, as the irritation occasioned by the removal, retards the processes of repair. But of course if the discharges are offensive and profuse, it will be necessary to remove them to maintain cleanliness, but avoid rubbing or using soap on the sore, by so doing you would break up the granulations that are forming in the progress of healing.

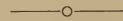
In all cases, whatever the treatment, rest must be insisted upon. Nothing so good as rest. It is of incalculable benefit.

In more recent times we have iodoform spoken of as giving the best satisfaction in the treatment of this class of injuries. The antiseptic powers of the iodoform being of great advantage. Dr. Noble of Ohio writing to the *Medical Record* gives this as his treatment as confirming others who have used iodoform in the treatment of burns. He says:

"My method has been to open and excise all the larger vesicles; then

dust the entire surface with iodoform. After which I apply iodoform ointment spread upon cotton cloth, cover this with absorbent cotton, with roller bandage over all. It has been my habit to repeat this dressing every two or three days. This treatment is superior to any with which I am familiar, in that it gives much greater relief from pain, hastens healing, lessens suppuration, and prevents sepsis or poison."

In applying any of the domestic remedies a few drops of carbolic acid in the dressings would do good service, as a destroyer of disease germs. The general condition of the patient must receive attention to maintain his strength by a nourishing and a regular diet. If constipated, give a gentle cathartic, as a small dose of "salts" or of rhubarb and magnesia. Above all, however, keep still and give nature a chance to repair the injury.



HYGIENE OF BEDS.

BY E. R. SHIPP, M. D.

Of late much attention has been given to the hygiene and sanitary surroundings of home. Sewerage, disinfectants, cleanliness, both inside and outside the household, are coming to the front as essential to the healthy condition of its occupants. But there is one element that has failed to receive even the smallest amount of attention and rather strangely so too. When we take into consideration that the majority of people spend at least one-third of their time in bed we can but wonder that so little thought is given to its hygienic condition and arrangement. Active practicing physicians who

daily visit numbers of sick beds, have ample opportunity to note the general lack of thought in this very important matter. An untidy bed is disgusting to the sense of both sight and smell; a source of nervousness and discomfort; and if its occupant be suffering from disease, a most potent factor in extending the recovery of the patient. The external appearance alone is very repulsive, but when we come to delve beneath the surface we stand appalled, or, what would be more in accordance with our natural instincts, flee from the house—but a sense of duty bids us stand at our post and thus we become acquainted with the constituent parts of what forms the bed now in ordinary use. Beginning from below we find the straw, hair or wool mattress. And it is the rare exception, even though they may have springs and mattresses of the best kind, that there is not added thereto the old-time feather bed, perhaps the heir-loom of past generations upon which their numerous progeny have reposed and partaken of “nature’s sweet restorer, balmy sleep,” and it is to this self-same feather bed that we wish to call attention. It may, perhaps, each morning receive a slight shake and gentle taps here and there, the principal object being to add to its nice appearance when made. The thought of its influence on healthful repose very seldom enters into the calculation. Perhaps the bed will be in constant use for weeks and months, and, indeed, even for years. Through a species of slovenliness the bed becomes wet or soiled, and this process is all-too-frequently repeated. It may perhaps be made clean upon the surface, but it is not always the unclean-

liness that is most palpable to the naked eye that is most offensive nor the most prejudicial to health. In addition to the natural accumulation of organic matter we have another fact that perhaps is not quite so well understood. A large amount of poisonous material is constantly escaping from our bodies, amounting to several pounds in the twenty-four hours; this, though imperceptible to our natural vision, does take place nevertheless, continuing even through the night, for nature’s machinery is never at rest, for an interruption even for a brief space of time in this wondrous process which constitutes life would inevitably result in the ultimate destruction of all that is mortal. So this vital machinery must be in continuous motion, and as a residua of its work, we have the poisonous emanations from the body. These germs are consumed by all porous substances. the feather bed especially, in time, becomes permeated with these poisonous germs, which are in part the natural result of the nutritive changes of the system, and also diseased germs and effluvia emitted from the bodies of the sick. Some people seldom if ever think of airing or sunning their beds. Just imagine the condition, especially if the bed be made of feathers, for they being originally so very airy and fleecy, give abundant opportunity for the reception and retention of all waste products. It has been estimated by reliable medical authorities that two-fifths of the disease germs floating in the air come from feather beds and pillows. Now the question arises, what is to be done to remove these impurities, for it is surely imperative that we should either

abandon this luxury of winter nights or devise means whereby it should be made perfectly pure and free from those elements that injure health. As a rule we find that sheets and pillow slips are changed about once a week, but occasionally we find people sleeping, perhaps for a period of six months, every night between the same blankets! They may be colored so they do not look soiled, but just think if you can, what the microscope would reveal! Upon one occasion the good mother, who, with her young child and elderly husband, had found warmth between these woollen strata through the winter months was taken ill and thought it best to retain the venerable blankets for fear of taking cold. "Besides," as she remarked, "it would be too bad to put on clean ones to be sick in." Is it any wonder they are sick! Is it not a marvel they are ever well!

But it is not our object to point out errors without suggesting means whereby they may be corrected. We must confess it is somewhat easier to accomplish the former than the latter; especially can we with greater facility suggest means of improvement than induce people to act thereby. To begin with, we should have our beds secure the one grand object of a bed—repose and sleep; and here we find great diversity in the tastes of people. One may like a firm, hard bed, while others prefer feathers and springs. In fact, any one becoming accustomed to either cannot sleep nor rest upon the opposite, showing the powerful influence of habit. But there is one factor to which we cannot so easily accustom ourselves. Doubtless some may in time become inured in untidiness,

to bad odors and even filth and dirt, at least to that extent that such things will not disturb their sensibilities very much. Still the deleterious effects of dirty beds is inevitable and I do not think we go too far in saying that they obtund the naturally fastidious tastes of mankind, demoralize and debase the delicate instincts, produce and foster disease, and shut the door against the spirit of divinity! For "the spirit of God will not dwell in unclean tabernacles." In suggesting a remedy for these evils we realize that the circumstances of people must enter very largely into our calculations. As much as we would desire so to do, we cannot order for all a bedstead with springs, a fine hair mattress, abundance of nice, clean bed linen, downy pillows and soft white blankets. But there is one principle that may be observed by even the poorest people, and that is cleanliness, for air and water are free to all and soap is cheap, and with a little thought and good management our beds may be kept sweet and clean. In the first place, we should have the mattress, if it be made of straw, so arranged that it can be frequently changed and the tick washed. If of hair or wool an outside tick or covering could be used which can be easily removed whenever soiled, washed and reapplied, and the contents, too, should not be used for a great length of time without undergoing a renovating process. The wool can be washed with soap and water, repicked and carded, as done originally, the hair can be scalded and picked apart, and both will be like new.

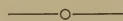
The feather bed too, which as we have before intimated is the greatest

reservoir of impurities, should very frequently undergo a renovating process, in fact if the truth was known even new feathers would never be used without first being cleansed. This assertion will doubtless surprise many, for who would think new feathers unclean? Yet it is really a fact. In all feathers there is a destructive insect known as the feather midge which eats and cuts up the quill, and there is also a certain amount of fatty and animal matter adheres to the feathers as they are removed from the fowl which undergoes decomposition, and with other foreign substances causes the feathers to mat together and become positively injurious to health. If we find new feathers in this state what must be the condition after years of use? Me-thinks I hear many voices exclaiming, "Where is the remedy?" Perhaps not all are aware that Salt Lake City can boast of an institution that makes the cleansing of feather beds a business whose address you will find upon another page.

We consider this a blessing to the community, and would give it as professional advice that every feather bed in the country should undergo this cleansing and renovating process, and then when this is accomplished, endeavor to keep it clean. An outside tick can also here be used and the rubber sheet in cases of emergency and always a protector or pad between the bed and sheet; have two so as to use alternately and change every day, having the one not in use well aired and sunned and ready for use the following morning; this can be fastened at either side by safety pins to keep smooth and render comfortable. Beds should be aired and well shaken up

every day. Sheets and pillow-slips changed ordinarily at least once a week, and in case of contagious disease once or even twice in twenty-four hours, and always have two sheets one over as well as under; and never, under any circumstances, sleep next to blankets nor quilts, it is the very worst of economy. Heavy bed covering should never be used, it should be light and soft, the latter imparts more warmth and is not burdensome.

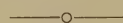
We believe that pure, clean and comfortable surroundings impart good health and good health makes good morals.



TO GIVE CASTOR OIL TO CHILDREN.

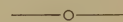
The French method of administering castor oil to children is to pour the oil into a pan over a moderate fire, break an egg into it, and stir up; when it is done flavor with a little salt or sugar or currant jelly.

Medical and Surgical Rep.



A CURE FOR DRUNKENNESS.

A half ounce of ground quassia steeped in a pint of vinegar, is recommended highly as a cure for drunkenness. A teaspoonful in a little water should be taken every time the liquor thirst is felt. It satisfies the cravings and produces a feeling of stimulation and strength.



DECOMPOSITION is extremely rapid in cases of death from sunstroke, due in great measure to the prevailing high temperature at the time of death.

Salt Lake Sanitarian

A MONTHLY JOURNAL OF MEDICINE AND SURGERY,

Devoted to the prevention and cure of diseases and injuries, and the promulgation of the laws of health and life.

DRS. SHIPP, EDITORS.

SALT LAKE CITY, MAY, 1883.

EDITORIAL.

THE PROFESSION.

Fearing that we might not be correctly understood by our friends in Utah concerning the high estimation we entertain of the medical profession, we have seen fit at this early date in our journalism to give expression to the views we entertain. On the very threshold it becomes necessary to separate the qualified practitioner either in medicine or surgery from the pretender. Take your watch, if you like, to the "tinker"—if he should spoil it you can buy another—but when it comes to the intricate and delicate machinery of our "wonderfully made" body and any part of it gets out of repair, it will stand no tinkering only at fearful risks. If any benefit is to accrue, it must come from "skilled workmanship."

In any well-regulated community we know of no more important factor than the accomplished physician and surgeon. True, there are cases to which he may be called that baffle all his powers, where he can only hope to smooth the road down the canyon to the valley of death; but, on the other hand, many are the opportunities when his knowledge and skill alleviates suffering, assuages pain, saves limb and

prolongs life. In this connection we cannot refrain from alluding to one "besetting sin" that has blasted the usefulness and lives of so many that had such fine prospects before them. The brilliant lights that have stranded on the reefs of intemperance! In any department of life, whatever the grade of the intellect, the judgment drunk or sober is vastly different. No man, we care not what his attainments are, should be trusted when under the influence of liquor, and particularly does this apply to those in our profession. It would be good law to prohibit any man from practicing medicine or surgery who "drinks." Lives are too seriously jeopardized when they are placed in the hands of a "tipsy doctor."

The true physician is as exemplary in all the "walks of life" as any person to be found in the community, carrying that sober, candid demeanor superinduced by his weighty responsibilities. Nor have we found it necessary in our studies and investigations of the medical science to lose faith in the divinity of revealed religion. While we are free to admit that a large number of unbelievers crowd the ranks of professional life, we deem it unfair to attribute to the light of science so deplorable a result, but rather to assign the same reasons operating upon the human judgment to be found in the shops of the artisan or among those who give intellectual investigation but little attention. A lack of faith or an indulgence of the baser instincts are absolutely incompatible with a religious disposition.

In his address to a large graduating class of the Jefferson Medical College Professor DaCosta gives us a fine in-

sight into the "higher life" and the noble aspirations that dwell in the bosom of the profession. He has so beautifully and forcibly presented our own thoughts and feelings upon the subject that we crave the indulgence of our readers to make the following excerpt from the *Medical Bulletin*:

"Pleasant faces, warm wishes, greet you on every side. Every one in this brilliant assembly is overflowing with kindly feelings. Mothers, sisters, brothers, friends, are joyously vieing with one another to make the day one of gratification to you. As the representative of the Faculty for this hour can I do otherwise than catch the tone of the prevailing sentiment? May not one of us, after months of labor in common, assure you, truthfully for all, gladly for himself, that we congratulate you with all our hearts, and that we share with those nearest to you the pleasure that the honors you coveted have been won?

"On an occasion like the present it is regarded as obligatory to say something as a parting word in the way of counsel and advice. Instead of adhering to this custom I shall offer you a few remarks on the kind of life you have chosen, and of the higher life which full success demands of you. The diploma just placed in your hands has made each of you a Doctor of Medicine, *singula jura, honores et privilegia*. What these rights and privileges are, you are soon to realize, and, unless I am much mistaken, you are all quite willing to realize them with the least possible delay. But I am not going to speak to you of rights and privileges, or of the popular notions of a physician's vocation, but of what it really is, as known to those who

lead it. Certainly it is not an easy pursuit. It is a life of constant hard work, of many anxieties. To those who patiently wait for their chance in large cities, and to whom gradually success comes, there comes also with that success an amount of labor which makes them strangers to their own friends and their own children. We all have our trials no matter how placed. Interference, silly suggestions, blame, calumny, preference given to the shallow pretender, are the least of these, and the more easily borne. But who credits us with the awful responsibilities? Who takes into account the struggles of our failures? Who thinks of the wear on our sympathies? Who knows the humble toil, the physical labor, the mental strain, of him whose name may be in every mouth in a metropolis?

"And the life of that most deserving and most hardly worked of any of us, the country practitioner, what is it but toil, toil, especially if his field of work be some sparsely-settled portion of the country? In "The Surgeon's Daughter," Sir Walter Scott tells us that he heard the celebrated traveller Mungo Park, who had been a country medical practitioner, give the preference to travelling as a discoverer in Africa to wandering in his former capacity by day and by night in the wilds of his native land. He mentioned having ridden forty miles, sat up all night, and successfully assisted a woman under the influence of the primitive curse, for which his sole remuneration was a draught of buttermilk and a roasted potato. I declare I hold them to be true heroes, when I regard their hard existence, their pure pathetic lives; when I recall their cheerfulness

and manliness; when I see them, generously forgetful of self, answering every call with alacrity; when I think of the warm heart that beats so steadfastly under the fuzzy, damp coat; when I know that the lantern that guides them in a dark night to the house of distress is but like their own calm purpose and resolve shining forth to guide and comfort others.

"But this is the hard side of the life you have chosen. The bright side is very bright. To be the welcome visitor; the one to whom all turn in trouble, and to whom family secrets are confided with the freest faith that they will be sacredly guarded; to be eagerly sought in the hours of danger and of anguish, and feel that you have the power of relieving; to be the hope of many, the friend of all—this surely makes a splendid calling.

"One decided compensation for much discomfort is speedily ours; knowledge of the world comes to us quickly. We soon become philosophers. Shams have fewer attractions for us; we are too much behind the scenes to be much impressed with the pageantry of life. We learn to see men and women as they are; and we appreciate how much more evenly the gifts of heaven are distributed than the superficial observer thinks. Nature is just, not generous. My lady who rolls past in her carriage, with her little blanketed pet dog on the cushion alongside, making indolence the occupation of her life, grows fat and puffy, is a prey to nervousness, and passes restless nights. The washerwoman who works hard sleeps well.

"But it is not my intention to speak to you solely of what the physician's life brings with it in its cares, its sor-

rows, its pleasures, its compensations. I know that you will experience them all. I take it for granted that you will reach the success which industry and perseverance are sure to attain; that you will become devoutly thankful for a life which keeps you away from many temptations, and affords the freest scope to your highest moral qualities; that, in short, every one before me will become the busy, the popular, the good, the beloved doctor in his community. But, this accomplished, is it to be all? Is it to be the summit of all endeavor? No; the time will come when, should you aim at nothing more, the intellectual side of your nature will starve. There must be something beyond; there must be other attempts if you are to feel that as a man you have taken a man's part in life. The secret of happy life lies in belief. The secret of all great success in life lies in aspiration. All higher life is constant aspiration; in morals for the true and good; in literature, for the elevation and instruction; in art, for the beautiful; in science for the unknown. The thing to be dreaded in professional life is that we gradually become more and more incrustated with commonplace. There is but one way of avoiding this, and the mental wasting that follows it, to have aspirations beyond our ordinary pursuits. This may be of more than one kind, according to tastes, opportunities, or natural gifts.

To most of us, perhaps, the easiest and most congenial way of interesting ourselves in problems which are comparatively unsolved, and which we approach with the desire of adding something to existing knowledge, lies in the close study of what we come

across in our daily employments, in grouping the results, in analyzing them, in endeavoring to discover the general laws which bind isolated facts together. To those attached to public institutions it is comparatively easy to engage in this kind of study, as well as a duty, for large opportunities constitute an obligation and a trust. But even for those who are merely concerned with the every-day occupations of professional life there are ample chances. Is there not for instance, still a great deal to be learned of the first beginnings of disease, of the very points, therefore, which the family physician has the best means of studying? The way in which hereditary affections are modified through the agencies acting in our multiplying and changing society, is another fruitful subject of inquiry. Still another is the development of new diseases, or of new types of diseases, by different states of civilization, and by new industries springing up, and the manner in which special climates on this great continent influence constitutional taints, as well as the ordinary chronic maladies. Here are problems which any thinker with the opportunities, and they are constantly presenting themselves to all, can aid in elucidating.

"Look at the wonderful labors of Pasteur! See France, in alarm at the threatened extinction of her silk culture, turning to her son of genius, and witness the remarkable sagacity with which he detected the cause in organisms coming from without the silk worm; found by experiment how to render them innocuous; and in so doing not only revived the languishing industry of his country and saved

her untold millions, but also laid the foundations of a system of research into the causes of diseases in man and in the higher animals, which has already resulted in many a glorious triumph as regards prevention; which has led in his hands to rendering the fatal splenic fever of sheep and cattle almost innocuous, and to putting a stop to the cholera of fowls, and which promises to give us the long sought-for antidote for hydrophobia. Take the last great discovery in this line, that of Koch, of the minute germs found in consumption. Look at all these great results—and they are but the forerunners of others as great—and you see some of the benefits of experimental inquiry; and perhaps an idea may also be formed of the pure delight it must have been to work out these conclusions. It is true that few of us are Pasteurs or Kochs, but we can all imitate them in smaller ways, and share with them some of the pleasures which such investigations give. It is not necessary for the highest success in anything to be surrounded by multitudes. Jenner was a country practitioner, full of the spirit of investigation, and it is to his love of it that you and I are perhaps indebted for our lives; and in consequence of his great discovery that I can look around on hundreds of charming faces unseamed by the scars of smallpox.

"Yes, science will make her home wherever she is welcome. She will gladly come to your hearth if you will cherish her. And I behold her among you the source of much happiness. I picture to myself the home of some of you where she has made a settlement; and I see a modest country-

house becoming famous as another garden spot in the world of ideas. It is in science as in nature. As the wanderer leaves the level ground new ranges of hills, new streams, new forests, are seen. The ascent continues: the crags are loftier, the golden lights more golden, the shadows deeper. Still higher, a gorgeous panorama is before him; at his feet lie grassy fields, pathless woods, and outstretched lakes; around him are splendid mountain tops gilded by the sun. As he looks keenly, more and more come into view. Everywhere

'Hills peep o'er hills and Alps on Alps arise.'

"Among us there are those for whom literature has greater attractions than science. I am not speaking of purely professional literature; for to keep ourselves acquainted with the additions to existing knowledge is, I hold, part of our sacred duty to our patients. I mean general literature. It is fascinating, but in our profession it is unfortunate if its pursuit stifle the love and pursuit of science. Yet I am far from thinking that general literature should be neglected. Nay, I maintain that attention to it has a much higher value than to make merely men of culture and of general knowledge. I think that the cultivation of the humane letters has the most distinct bearing on the cultivation and appreciation of science. Science is nothing without imagination; and imagination is most readily kept fresh by literature.

"But there are other uses of the cultivation of literature to the man of science. He can become the disseminator of truths in a manner which is otherwise denied him. He can make himself understood, and the influence

of what he has to say felt, as none but a man of culture can. The world will not stop to fathom obscure meaning, but it likes to be instructed, if the instruction comes in plain language and with some grace of expression. It is not moved to take an interest through colorless thoughts, or, to use Cicero's words, *tenui quodam exsangui sermone*, in topics discussed in tame and bloodless phraseology. Above all, it will not be a patient listener if all you know, however valuable, is flung at it at once. It resents the intrusion and flings it back. Let us always be mindful of Bacon's wise saying, 'If you have a handful of truths, open but one finger at a time.'

"But there are other sources of exertion for those aiming at a higher professional life than the cultivation of science or of literature. There is the chance, which to some will prove the most attractive, and the most to their taste, of mixing in the great movements which are to benefit mankind, and of making their influence felt in them. Can there be, to him who likes to work on men, a finer pursuit than to interest himself in promoting temperance? Who knows better than a physician what miseries intemperance entails? Who oftener sees the wretched household, the broken lives, the physical evils, caused by it?

"Then there is that highest expression of the development of modern medical science, sanitation and preventive medicine. What greater work for any one than to busy himself in this? What interest in a community higher than to avert disease and death?

"The profession of medicine, with the manifold opportunities it has of observing mankind, on a small scale

and on a large scale, in all its moods and needs, and with the laws of nature it sees at work, ought to be far more than it is the profession of great movements. Here is one in which it can take the most vivid interest and exert the greatest power. Let me not be misunderstood. I know it is impossible for the individual doctor immersed in his daily work to become an active sanitarian in particular directions. For this there must be special officers, whom the community should liberally remunerate and encourage. But any one can identify himself with this movement of preserving life and health; we can all help it along and give direction to it by guiding popular thought. We can all aid in bringing nearer the great future to which preventive medicine must lead.

"There are thus many ways in which the aspirations of a higher professional life may be realized in useful or in great work. Some of these can be followed actively only when success has brought comparative leisure; but all can be kept in mind; one or all can be aimed at throughout our careers and according to our individual strength. In so doing we can live a life full of interest, a life of noble pursuits.

'We live in deeds, not years; in thoughts, not
breaths;

In feelings, not in figures on a dial.

We should count time by heart throbs. He
most lives

Who thinks most—feels the noblest—acts the
best.'

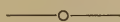
"But, friends, the hour has come at which we must part. The past, with its quiet traditions, is to give way to the future, with its stirring action. The hands are moving on a dial towards the completed hour, marking for the last time the minutes for us in

common; and these few moments are all that separate our joint narrow endeavors from the higher life which is to be all your own. Let it be your own in the same spirit in which in long by-gone years, at the end also of their period of probation, the aspiring youth received with the solemn investiture the tokens of knighthood. The golden spurs and the sword were simply the outer signs of their dignity. The manly sentiments, the sense of honor, the country, the desire for heroic enterprises, the valor, the loyalty, were the real qualifications to be jealously guarded through life. There are no Launcelots, no Rolands, no Sidneys, no Bayards now. But the sense of chivalry is the same; only in our times its spirit is even higher. In place of wild adventure it seeks that which is most generally helpful to mankind. *Soyez preux, hardi et loyal*, was the exhortation with which knighthood was conferred. Also, 'Be a good knight in the name of God.' So may it be to each of you! Be brave in the unfaltering discharge of duty and in constancy to the right; be bold in search of truth and in its enunciation; be loyal to your profession, your comrades, and your college. Sound, trumpets, sound! 'Be brave, bold, and loyal!' 'Be a good knight in the name of God.'"

As to the line of policy we expect to pursue, while we shall seek to disseminate among the people those things that will be of practical worth, that can be utilized in domestic practice, at the same time we wish to conduct our journal upon a strictly scientific basis, and will be ready at all times to "give the reason for the hope within us," and for our doctrines

to quote some of the best authorities on the subjects to be found in the land. We shall attempt to shape our course so as to be able to inspire confidence in the declarations and principles enumerated in the SANITARIAN.

It is our intention to give ourselves the widest scope, for we do not wish to feel hampered in our labors, but resolve to give ourselves the liberty to flit from flower to flower whether it blooms in the low grounds or high up on the mountain side where we can gather the honey of health and life and carry upon our wings the bright colors of light to the hive of the SANITARIAN.



SELECTIONS.

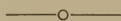
“STOOPING FORWARD.”

EVERYONE knows that stooping forward, particularly after rising quickly from bed in the morning, when the stomach is empty and the heart has less than ordinary support from the viscera below the diaphragm, is very apt to occasion a form of faintness with vertigo not unlike that which occurs in sea-sickness. We do not at the moment speak of the faintness and giddiness from cerebral anæmia, which are directly consequent upon suddenly assuming the erect, after long continuing in the recumbent, posture; but of the more alarming sensation of being in the centre of objects that are rapidly passing away, usually from left to right, with loss of power to stand or even sit, and an almost “nightmare” feeling of inability to call for help or do anything to avert a catastrophe, while throughout the experience the sufferer retains painful-

ly acute consciousness. This, we say, is familiar as one at least of the effects not uncommonly produced by stooping forward under the special conditions indicated. With many other varieties of the vertigo consequent upon heart weakness or cerebral anæmia observation or experience has made us all acquainted. We cannot, however, help thinking that the consequences of even partial compression of the veins of the neck, offering an obstacle to the return of blood from the head, with its important organs, are not so well recognized. The peculiar form—or, more accurately, the several forms—of headache distinctly caused in this way when the head is long bowed forward on the chest, bending the neck on itself, cannot fail to occur to everyone; nor will the high tension of the eyeball, the turgid and heavy eyelids, the snuffling nose, the deafness, with buzzing or throbbing in the ears, and heavy breathing, and the puffed and perhaps flushed or darkened color of the face, resulting from the obstructed venous circulation through the bended neck, be forgotten. There are other and more perilous, though secondary, effects of leaning forward when the heart is weak, or the blood-vessels are not so strong as they ought to be, which should not be overlooked. Beyond question the extra strain thrown upon the apparatus of the circulation by anything that impedes the free passage of blood through almost any part of the venous system is more severe and dangerous than a *physically* equal strain thrown on the arteries. At least this is so in adult life, and, without going further into detail in connection with the *modus operandi* of the mischief to

which we point, it may be permissible to urge that the subject is one to which attention may be usefully directed. The weakly, and those who are not unlikely to have hearts readily overburdened, and blood-vessels easily stretched beyond recovery, or even ruptured, should be warned quite as earnestly against suddenly assuming, or too long retaining, postures which do—however slightly and partially—impede the return of blood through the veins. We know how prolonged sitting may cause the veins of the legs to become distended, and either give way or permit the extravasation of their contents. When this sort of thing happens, even though in comparatively trifling degree, in the case of vessels directly connected with such delicate organs as the eye, the ear, and the brain, it is easy to see that the results may be very serious in their character; and probably few postures commonly taken up by persons who lead somewhat sedentary lives are so prone to do mischief unnoticed as that of ‘leaning forward,’ as at work at a table which is not sufficiently high to insure the head being so raised that the veins of the neck may not be in any way compressed, or the return of blood from the head embarrassed or delayed. We see reason to believe that if this apparently small matter were more generally understood there would be fewer head and heart troubles, and we will go so far as to say that some lives now lost would be saved.”

—*The Lancet*.



In cases of bad orders from fevers, sponge the patient twice daily with equal parts of vinegar and water.

MUST ALL CHILDREN HAVE THE DISEASES OF CHILDHOOD?

This question suggests a truth with which we have often been profoundly impressed.

There is a popular opinion among the laity in general, but among mothers in particular, and even with some respectable medical men, that all children must have all the contagious fevers during childhood, or they can never become great or good.

Let us examine this question a little.

These zymotic fevers are the result of a pathological process, akin to a fermentation in the blood, produced by specific nitro-organisms, or disease-germs. Evidently, if the child is effectually protected from contact with these germs it need not have the diseases. There is no divine law written that every child must have whooping cough and measles, any more than that every man or woman that enters upon the pleasures of sexual maturity must of necessity be afflicted with the loathsome diseases possible in that state.

Look at the returns of the Boards of Health, and see the large proportions of death caused by the contagious diseases of childhood. We venture to say that these are, in most instances, with suitable care, preventable causes of death. Complete isolation, and careful disinfection at the first alarm, would secure the desired immunity to a fair degree of certainty.

These fever-processes are, in a majority of cases, injurious to the constitution. How many a child, weakly, yet with sufficient strength to become, with proper care, training and development, a healthy and long-lived man,

is prematurely taken away by an unnecessary attack of measles or scarlet fever? How many, who were even robust and promising, can date the foundation of fatal organic diseases from their childhood's disease, to which they were carelessly, or even purposely exposed!

Aside from the immediate danger of death from the disease itself, let us examine the important subject of the sequellæ of these diseases. Scarlatina may be followed by chronic sore throat, conjunctivitis, otorrhea, chronic diarrhea, chronic rheumatism, endocarditis, nephritis, or cutaneous dropsy. Rubeola may leave the respiratory tract so permanently injured as to induce the various forms of chronic inflammation of those parts, even to phthisis pulmonalis. Parotitis may leave permanent marks in the mammæ or testes, or cause death from meningitis. Pertussis is frequently succeeded by chronic catarrhal pneumonia, capillary bronchitis, emphysema, consumption, and umbilical or inguinal hernia. In the record of deaths in after years, the remote and initial cause is never mentioned. Due account taken of them would still further increase the proportion of deaths assigned to these causes. How much longer-lived a race we might be, possibly, were it not for the preventable diseases of childhood.

Is not the subject one of grave importance? Should not every physician, every teacher, every parent, be impressed with its importance? But if these causes of suffering and death are preventable, what are some of the means of preventing them?

1st. The first case of such a disease brought into a neighborhood should be

as completely as possible isolated from all persons liable to contract it.

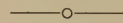
2d. Thorough and complete methods of disinfection should be at once adopted.

3d. Parents should take every means in their power to prevent the exposure of their children to such diseases, no difference how favorable the season of the year may be for their easy recovery.

4th. The personal disinfection of well persons during the prevalence of an epidemic in the community.

It might be interesting to see a comparison of the statistics in regard to the number of those who lose their lives or suffer permanent injury in an army engaged in battle, with the same number of children attacked with one of the zymotic fevers. Perhaps the numbers would be surprisingly close together.

The various points connected with this subject would make a very interesting matter for discussion on the part of observing and experienced family physicians.—*Medical World*.



HYGIENE OF THE SICK-ROOM.

It has occurred to me that, as physicians and surgeons, we do not look after the hygiene of our sick-rooms, and that failure in the treatment of our patients is the result of such neglect. Less than two years since a case in point made a lasting impression on my mind.

A married daughter of a wealthy farmer had pelvic cellulitis. At one time a laparotomy was contemplated, and, with this end in view, the house was set in order. In the performance

of this duty the cellar of this model country home was found to contain all kinds of vegetables, such as are grown in this climate, including wagon-loads of Yankee pumpkins.

This cellar extended, as all cellars should, under the entire house. It was well filled, and utilized as a storage room for all vegetables liable to be injured by frost. Some of these were in a bad state of decomposition, giving rise to foul and poisonous gases, which readily found their way to the rooms above. Everything was cleaned out, and the cellar aired and limed.

Duty called me to the kitchen for some hot water; what should confront me but a forty-gallon swill barrel half full of slop not more than five feet from the stove! Up to this time I had been eating and sleeping in this house. It is needless to say that my own health and life became now a matter of concern along with that of my patient. How to get that barrel out of that kitchen without offending my friends became a problem which was never solved. In the meantime, a favorable change rendered an operation unnecessary, and relieved my troubled mind in more ways than one. While this is an isolated case, many more could be mentioned where the unhygienic condition of the sick-room was equally as bad. This also suggests that our attention should not be confined to the sick-room *per se*, but should be directed beyond its floor and walls for possible sources of dangerous emanations. A good physician will be careful in the selection of his remedies, and administer them in a palatable form. A good surgeon will look for the best instruments and surgical dressings, both having in view

the surest known means for the cure and healing of their patients. These means can be made more certain and efficient by attention to the hygienic surroundings. In a very few words you will permit me to state how a good hygienic sick-room can be secured. Where a long sickness is expected or a surgical operation to be performed of such importance as to confine the patient to bed for some time, the best room in the house should be selected. It should have provision for an open fire, which alone will ensure good ventilation.

Carpets and window-curtains should be removed, together with all superfluous clothing and furniture. The room should be made scrupulously clean, and, if still greater precaution is deemed necessary, fumigated with sulphur. This is to be done by burn-the sulphur in an iron crucible placed in the centre of the room, and near the ceiling. Druggets can be used to lessen noise and protect the feet of attendants. Such bed and bedding should be chosen as best suited to the case. The patient should be placed between sheets, one of which is to be changed every twenty-four hours. A third sheet will often be found indispensable, called the slip sheet. Fold a sheet four square, place its long diameter across the bed under the hips of patient. This folded sheet will protect the bed in case of involuntary evacuation from the bladder or rectum, and by its aid the patient can be rolled over without any exertion of his own, and thus secure a change of position so often required to prevent congestion of the lungs. To secure greater protection of the bed from escaping secretions, a rubber cloth should be

placed under the slip sheet. A disinfecting solution should be kept in the bed-pan, and into it the discharges passed. Need I add, these secretions should be removed from the room as soon as possible, and not stuck away in a closet, in the wash-stand, or under the bed? It is clearly implied from the foregoing in regard to the care of the bed, that the patient's body should be kept clean by local or general sponging with soap and water. All liquid medicines should be dispensed in bottles and corked, and not left in tumblers or teacups to be taken by mistake or gather up floating particles of dust in the room. Absorbent cotton should be kept in a box or bottle. A one to twenty solution of carbolic acid, in a quart-glass fruit-jar, should be kept on hand to disinfect surgical instruments. Wash-stand cover, towels, and vessels should be clean. *The physician should be clean himself, and never touch his patient with a foul finger or instrument.*

If one will practice what is here preached in the sick-room, he will furnish a good object lesson to the patient and nurse, and encourage them to be cleanly, too.

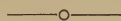
If, in addition to these directions about the room, the patient, and yourself, you will glance beyond and remove all sources of impure drinking water or food, and see to it that pure air shall enter the room, your patient will then be placed in the most favorable condition that hygiene can furnish him for recovery.

This very brief paper is from the standpoint of a surgeon, and may be regarded as only another plea for cleanliness.

It is confined to the homes as we

now find them in the country and towns, where there is no plumbing.

The Sanitarian.



AN IMPORTANT STEP IN VACCINATION.

In these days of antiseptic surgery, when it is believed that the most serious consequences may follow the introduction into the human system of germs which are constantly present in the air and on the surface of the body, it is a somewhat singular spectacle to see men who are full believers in the germ theory habitually doing a thing which according to this theory must be exceedingly dangerous. We refer to the practice of vaccination as it is ordinarily carried out. In this procedure a portion of the skin is scratched until the corium is reached, and then a portion of vaccine virus is thoroughly rubbed into it with the aid of sufficient moisture. It is the misfortune of physicians and patients that there is no practicable way of securing supplies of vaccine virus which will insure its entire freedom from the germs of erysipelas or some other disease; and, no matter how careful and conscientious the vaccinator may be, he may inoculate his patient with something very different from what he intended.

But there is another source of danger to the patient which does not depend upon the nature of the virus used, and which may have its share in producing the violent inflamed sores and profound constitutional disturbance which too often follows vaccination. This source of danger lies on the skin of the patient, in the shape of dead epithelium, which may have

undergone some decomposition from the action of the perspiration, or of morbid organisms which have been deposited in it.

We believe this source of danger in vaccination has not received the attention it deserves, and that it would be profitable for some investigator to try to learn what proportion of bad arms are the consequence of the failure of physicians to render aseptic that portion of the skin of their patients which they select as the place for vaccination.

Meanwhile we would urge upon our readers the desirability of making it an invariable rule to thoroughly cleanse the site of vaccination with water and soap—and perhaps some antiseptic—and brisk rubbing; so that, if a bad arm follows, they may feel that they have not neglected so simple a step, which is suggested by common sense and made almost imperative by the accepted tenets of general surgery. To vaccinate an unwashed arm ought, we believe, to be regarded as an error in practice.

The Medical and Surgical Reporter.

PROF. GROSS'S TRIBUTE TO WIFE AND MOTHER.

Of his mother he says: "She was a most pure and exemplary Christian, full of faith in the promises of the Redeemer. To her training I am indebted under Providence for the moral part of my character. Her early advice and admonition, prompted by a heart that never knew any guile or deceit, served to guide me through the thorny paths of boyhood and youth free from the vices that so easily beset us at those tender periods of existence.

It was she who taught me to revere religion, to love my neighbor, and to respect the laws."

Of his wife he says: "I married the woman of my choice when she and I were young. We lived most happily together for forty-seven years and a half. My secrets were hers, and hers mine. She knew my business as well as I. We did nothing of importance without consulting each other. I never did a good day's work or received a good fee without informing her of the fact. During my most arduous struggles for support and reputation I was conscious of my wife's love, esteem and tender sympathy."

With such a mother, and such a wife, we have other reasons for his pre-eminent success in his chosen career. His views of mothers and marriages, given in connection with the descriptions of his own mother and wife, are singularly beautiful and far-reaching.—*Medical World.*

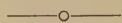
THE USE OF WATER AT MEALS.

Opinions differ as to the effect of the free ingestion of water at meal times, but the view most generally received is probably that it dilutes the gastric juice and so retards digestion. (*British Med. Journal*, Dec. 3d, 1887.) Apart from the fact that a moderate delay in the process is by no means a disadvantage, as Sir William Roberts has shown in his explanation of the popularity of tea and coffee, it is more than doubtful whether any such effect is in reality produced. When ingested during meals, water may do good by washing out the digested food and by exposing the undigested part more

thoroughly to the action of the digestive ferments. Pepsin is a catalytic body, and a given quantity will work almost indefinitely, provided the peptones are removed as they are formed. The good effects of water, drank freely before meals, has, however, another beneficial result—it washes away the mucus which is secreted by the mucous membrane during the intervals of repose, and favors peristalsis of the whole alimentary tract. The membrane thus cleansed is in much better condition to receive food and convert it into soluble compounds.

The accumulation of mucus is specially well marked in the morning, when the gastric walls are covered with a thick, tenacious layer. Food entering the stomach at this time will become covered with this tenacious coating, which for a time protects it from the action of the gastric ferments, and so retards digestion. The tubular contracted stomach, with its puckered mucous lining and viscid contents—a normal condition in the morning before breakfast—is not suitable to receive food. Exercise before partaking of a meal stimulates the circulation of the blood and facilitates the flow of blood through the vessels. A glass of water washes out the mucus, partly distends the stomach, wakes up peristalsis, and prepares the alimentary canal for the morning meal. Observation has shown that non-irritating liquids pass directly through the “tubular” stomach, and even if food be present they only mix with it to a slight extent. According to Dr. Leuf, who has made this subject a special study, cold water should be given to persons who have sufficient vitality to react, and hot water to the others. In chronic

gastric catarrh it is extremely beneficial to drink warm or hot water before meals, and salt is said in most cases to add to the good effect produced.—*Col. and Clin. Record.*



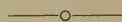
THE PHILOSOPHY OF DRINKING LARGELY.

Not very long ago those unhappy folk who go wearily and sadly, because, forsooth, they are waving fat, were warned to leave off drinking largely and to minimize the quantity of liquid they consume (*The Lancet*). Never before, perhaps, was there a more mischievous “fad” imposed on a too credulous public than this reduction of the amount of fluid taken. Now the obese are, by the rotary madness of the crazy in physic, counseled to drink deeply. This, at least, is a safe policy, and whether or not it does anything in aid of the removal of fat, it will certainly not produce the evil consequences which have in too many cases been brought about by the abstinence from solvents and diluents. Our concern is not with the “anti-fat” movement; with this we have no sort of sympathy, except in so far as an accumulation of adipose tissue may chance to be morbid. Meanwhile there are physiological facts in relation to drinking which ought to be recalled by those who know them, and brought to the knowledge of the unskilled in medicine, because they concern the promotion of health. Thus it is essential that there should be constantly passing through the organism a flushing, as it were, of fluid, to hold in solution and wash away the products of disassimilation and waste. Those who do not recognize the fact

that three-quarters by weight of the entire organism is normally composed of fluid cannot fully realize the great need which exists for a copious supply. If there be not a sufficient endosmose, the exosmose must be restricted, and effete matters, soluble in themselves, but not dissolved because of the deficiency in fluid available, will be retained. Take, for example, the uric acid; this excrementitious product requires not less than some eight thousand times its bulk of water at the temperature of the blood to hold it in solution; and if it be not dissolved it rapidly crystallizes, with more or less disastrous consequences, as in gout, gravel, and probably many other less well-recognized troubles. We only mention this particular excrement by way of illustration. In all, it may be fairly concluded that not less than three and a half pints should be consumed by any person in the twenty-four hours, and when the body is bulky four or even five pints should be the average. It is, moreover, desirable that the fluid thus taken should be in the main either pure water or water in which the simplest extracts are held in solution. When fluid taken "as drink" is itself heavily charged with solid matter, it cannot fairly be expected to so entirely rid itself of this burden in the process of digestion and absorption as to be available for solvent purposes generally, although the separation between solid and fluid ingredients of the food is doubtless fairly complete in the processes preparatory to assimilation. The aim should, nevertheless, be to supply the organic needs in this particular abundantly, and with such fluids as are not overloaded with solids, but simple and

readily available as solvents. Another urgent reason for drinking freely of bland fluids is to be found in the need of diluents. This is something slightly different from mere solution. Many of the solids of the tissue waste are of a nature to irritate and even disorganize the kidney, if they be brought to that organ for excretion in too concentrated form. There is no reason to suppose that the kidneys are liable to suffer from overwork if the specific excreting power of the kidney-cells be not too heavily taxed. If only the products of disassimilation be diluted, so that they can be passed through the kidney by the simple process of exosmosis, the organ will discharge its function without injury or exhaustion. As a matter of fact and experience, those who drink innocuous and unstimulating fluids freely do not suffer from kidney trouble, but are almost uniformly healthy, at least as far as the excreting functions are concerned. It is a popular fallacy that the kidneys may and ought to be relieved by the determination of fluid to the surface of the body and perspiration. Except in cases of organic disease of the kidney, or where, as in the elimination of a special product, it is desirable to use the skin as an emunctory, the fluid diverted from the kidney is wasted so far as flushing purposes are concerned.

The Medical Record.



CONVULSIONS may be frequently cut short like magic by turning the patient on his left side. Nausea, occurring as an after-effect of chloroform and ether narcosis, may generally be controlled in the same manner.—*Chicago Medical Times.*

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No. 3.

ADDRESS ON HYGIENE.

BY TRIALL GREEN, M. D. L. L. D.

*Read before the Medical Society of
Pennsylvania, in session at Phil-
adelphia, June 5, 1888.*

It is well to pause from time to time in our work in which we engage for the purpose of promoting the health of those among whom we live, and learn what has been our success.

In reviewing the reports which have been made before this society by so many able members of our profession, examining the many excellent treatises which have been written on hygiene, and considering the great attainments which have been reached in hygienic science, we find no reason for the belief that our knowledge of the subject has not been largely increased. But may we not ask, can we with equal certainty say that this knowledge has reached to any considerable degree the families in which we minister? What, for example, do we find to be the practice of many of our people (and I do not refer to the lower classes only) with reference to the importance of pure air in our dwellings? Many remain during the winter, by day in rooms that are not ventilated, and by night sleep in apartments into which no pure air is admitted, while the occupants are consuming the same air

which the room contained when they retired for the night. Is there not a very general belief that night air is in some way exceedingly injurious, and therefore must be carefully excluded? Do they not know that it is the only air to be had after sunset, and must be used or respiration ceases?

As it regards ventilation, many architects and builders must be very ignorant, or they plan and build in accordance with the ignorance of those who are to occupy the houses which they arrange for them. Not long ago I examined a house that was erected for a wealthy gentleman, who was about to occupy it. I examined it that I might learn how far it had been constructed with reference to the health of those who were to make it their home—to spend most of their time within its walls. It is a large double house, and apparently perfectly built. I was particularly interested to learn whether the architect had made provision for ventilation—not a flue or register could I find in any room in the house. I met the mason who had been employed to do the mason-work. I remarked to him, “That building which you and the carpenter put up is very like a merchant’s packing-box, and does not meet the least properly constructed modern house. I could not find any arrangement for ventila-

tion." The mason replied, "There are flues for all the rooms in the house." I said, "I could not find them." He replied, "We plastered all of them up." The carpenter who built the house was the principal builder in the town. I had occasion to direct the construction of an addition to a parsonage some years ago. I employed a man who possessed an excellent trait of character, which was that he would do what he was directed to do. The same carpenter to whom I have referred went to examine the work, and asked this man what he was doing. He replied, "I am building a flue as the owner directed." "It is of no more use than the fifth wheel to a wagon," said the carpenter. The work was completed according to the plan, and the family who occupied the house found the addition to it the most pleasant part of it. When any member of the family was ill he was always taken to this room, where the air was pure, helpful to recovery, and pleasant to the nurse.

A scientific sanitarian who is greatly interested in the subject of ventilation was conversing with a member of a church in this city on the subject. The latter remarked, "The church in which I worship is well ventilated through openings in the ceiling," The scientist visited the church shortly after this conversation, and discovered that all the ventilation was due to a fresco-painter, who represented openings in the ceiling so well that the members of the church supposed that they were real openings through which the air which they had breathed passed out of the church.

Dr. Isaac Ray, known to many of our society in his interesting little

book on manual hygiene, makes this relation: "A gentleman, who, for many years sat upon the Supreme Bench of Massachusetts, which he honored by his learning and integrity, and who, in the course of his life, and in all that ability instructs more the air than any other professional man of his time, seems to express his surprise that so much has been said about pure air and bad air, because it seems to be all alike to him." (*Mental Diseases*, p. 88.)

An intelligent man who had very good knowledge of the value of pure air, told me that he had been in the habit of introducing a good supply of pure air into his bedroom on leaving it in the morning. His wife, who remained in bed, asked him: "Why do you allow so much air to enter the room when you leave it in the morning?" He replied, "If you will rise and go out of the room while it is closed and return to it, you will learn why I open the windows." And so will every one who sleeps in a room which is not well ventilated.

In a distinguished scientific school in this country there is utter neglect of the laws of health as connected with pure air. Classes succeed each other hour after hour without a change of air. The building was constructed very properly, but ventilators are not kept open. All the teachers are familiar with the laws of health, and the effect of breathing such air as their pupils breathe every day.

From all this we see that builders, housekeepers, intelligent judges and scientific teachers are entirely ignorant of the value of pure air, or wholly indifferent to apply the knowledge which they possess.

Another of the bountiful gifts of the Creator—water—is too little used to cleanse the skin. I need not dwell on this—you are familiar with the ignorance or negligence of many for whom you prescribe.

Not long ago a man applied for admission to one of the hospitals of this city. He was examined, and the physician in charge called one of the assistants to take him to the bathing room and give him a bath. The man objected and said, "I bathe twice a year and not oftener, I bathed a short time ago, and will not be bathed now—I would rather have my disease." The physician would not recall his order and the man left the hospital. I have been surprised when attending sick children and having prescribed a warm bath, often so soothing and so essential in many of the diseases of children, to hear mothers say, "Doctor, I could not use it, my child would be so frightened that I would fear the result; I never gave it a bath."

I suppose all of us have learned that a child accustomed to the use of water in this way is greatly delighted when placed in the bathing-tub, and the mother finds it difficult to get the consent of the child to be removed from the tub when it has been for a proper time in the water. It will be easily seen that a child reared with this dread of a bathing-tub will not be likely to become a friend to the external use of water. From what many of us have learned in the sick room we can testify that the use of water to remove excreta from the skin, and foreign matter deposited upon it, is greatly neglected, or very seldom used; one cannot practice medicine for any length of time without discovering

that there is great fear that changing the linen of sick persons, and the sheets of their beds is not without danger to the sick. Cellars are not kept as pure as the health of households requires—decaying vegetables are often allowed to poison the atmosphere of the house; that there is neglect is discovered in the unpleasant odor frequently noticed in the upper rooms of otherwise well ventilated homes. Yet there are persons who will take the damp, offensive air of the cellar and send it throughout the house to be breathed by the family. Many instances of this kind can be found in every community.

The house water-closet and the stationary washstand still present difficulties in hygiene which it seems cannot be met. One of the ablest architects said to me not long ago, "When I built my house I placed a stationary washstand in every bed-room in the house; were I building now one would be sufficient."

A distinguished chemist of another city, in company with several scientific men said "What can we do to keep our houses pure." My wife called me to examine one of the wash-bowls. A great quantity of green fungus matter came out of the drain-pipe into the bowl. Is this favorable to health?

What shall we do? Boards of Health can do much. Every physician should, to the families under his care, point out the violations of the laws of health. We have not made much progress. The people seem not to follow the light which we suppose they have. We must begin further down. The necessity for pure air and the free use of water must be impressed upon the minds of our young

people. Through our schools there is physiological instruction. The generation now growing up all have better knowledge of hygienic matters. Most professional persons have observed the object of the laws of health.

Take so simple a matter as ventilation. So far as my observation goes the school-room, factory, church or public hall, to say nothing of private dwellings, in which the principles of ventilation are adequately applied, is the rare exception, not because the arrangements for it are expensive, but because the knowledge involved is in possession of so small a number. "The sweltering majorities live their lives and do their work under conditions where not only their comfort, but often their safety depends upon the knowledge of simple truths of which they are ignorant."

There are several subjects which belong to mental rather than to physical hygiene, which has not, so far as I know, been discussed before this society; but they are so closely connected with it by their influence on the body that they may properly be discussed in the half hour allotted to us for this matter. One of these is the fear of suffering in the hour of death.

Shakespeare, in "Measure for Measure," Act I, Scene 1, makes Isabel say: "The sense of death is most in apprehension."

And Cassius, in Julius Cæsar, Act II, Scene 1: "Why, he that cuts off twenty years of life cuts off so many years of fearing death."

You have doubtless observed many cases of good people who had during a long life lived in dread of physical suffering in the hour of death. I at-

tended many years ago an excellent man, a rector of an Episcopal Church, for disease of the heart, with the usual attendant, dropsy. His wife said to me on one of my visits; "Doctor, my husband has had great dread of death, believing that it is attended with great physical suffering; excepting this he has no fear." I replied: "Madam, I have no doubt that his fear of suffering will not be realized. He will pass into a gentle sleep and will unconsciously enter into that future life in expectation of which he has lived." In a very short time, on a Sabbath afternoon, he passed into an unconscious state, and on the following morning entered into that blissful life for which he was prepared.

I attended a nervous patient, a good woman, who had often expressed to me her fear of suffering at the hour of death. I stated to her what I had often observed at the last hours of the dying. She lived beyond the allotted period of three score years and ten. I attended her in her last illness, a chronic pulmonary affection. I was at her bedside between nine and ten o'clock in the evening with her children. A few minutes were spent pleasantly with her, and I bade her good-night. There was no indication of approaching death. She passed, as I was informed, into a pleasant sleep. In less than two hours one of her sons called to inform me that his mother was dead, going into her last sleep as gently and quietly as in her childhood she fell asleep in her mother's arms.

I could furnish instance after instance of the same kind did time permit, and I am sure the experience of the practitioners present will confirm what I have stated. You will not mis-

take that other view of death, as remarked by the author of the "Epistle to the Hebrews," chap II, 15—that fear which Christ came to allay—"And deliver them who through fear of death were all their lifetime subject to bondage."

As it relates to physical suffering, the manner of death by the brain, the lungs or the heart, is sufficient to prove that there is unnecessary fear of physical suffering in the last hour.

The Scripture account of death usually is: "He fell asleep." The Greek word, *kiometerion*, from *kiomao*, "I sleep," from which our word cemetery is derived, beautifully expresses the Scripture idea, a sleeping place.

Some of our poets have expressed this idea :

"Approach the grave

Like one that wraps the drapery of his couch
About him, and lies down to pleasant dreams."

—BRYANT.

Mr. Hood, in his poem, "The Death Bed," observes what many have realized as true :

"We watched her breathing through the night,
Her breathing soft and low,
As in her breast the wave of life,
Went heaving to and fro.

* * * * *

"Our very hopes belied our fears,
Our fears our hopes belied ;
We thought her dying when she slept,
And sleeping when she died."

And Wolfe, in his monody on the death of Sir John Moore :

"He lay like a warrior taking his rest
With his martial cloak around him."

There are no cases of death in which the suffering seems so certain as in pseudo-membranous laryngitis. Dr. J. C. Hushmore, Brooklyn, N. Y.

Medical Journal, May 9, 1888, page 242, writes ; "In regard to the history of the case, if the operation (tracheotomy) is not done, my experience has been that death is not nearly so painful as I was at first led to suppose. I make this statement with some hesitation, in view of the fact that many authors advise the operation on the ground that even if the case has a fatal termination, the distress is less than without it. I am speaking now, of course, of those cases where dyspnoea is due to mechanical causes. When patients have died from laryngeal obstruction alone, the picture has always been the same—gradually increasing restlessness and dyspnoea, with paroxysms of spasms added at times, and threatening death ; then the spasm is relieved in a few moments, but a very considerable amount of distress continues, and then a rather rapid development of unconsciousness, the coma continuing for several hours, and the patient dying quietly, the breathing being still obstructed. And this is so uniform in my experience, that I have been in the habit of telling the patients' friends that, even if the operation is not done, the patient will not choke to death, with great struggling and distress, but will die unconscious and with comparative ease. The same change takes place, of course, minus the laryngeal spasm, in those cases where death is due to extension of the membrane below the tube, and due to the same condition of imperfect æration of the blood, with its effects on the brain and on the circulation." On this subject it is pleasant to observe the benevolent arrangement that has been made with reference to the lower animals.

The time allotted to this case will not permit the discussion of the presence of death in the animal world. It will suffice for the present discussion to say that the continued multiplication of animals would interfere with their business, and then in the present order of things sickness and the feebleness of one would only be a time of suffering. The presence of carnivorous animals maintains a proper balance and prevents the suffering which follows the feebleness of age. The presence of instruments of destruction in the carnivora fits them to destroy their prey with the least possible suffering, just as we ourselves make use of methods for killing animals for our food and ending the suffering of our domestic animals when incurably sick, or suffering from old age.

There is in the arrangement of Providence, benevolence to the lower animals, and why should not the manner of dying in the human family be as kindly ordered to prevent the agony of dying.

Mr. Livingstone the distinguished African Missionary described his sensations when attacked by a lion: "I was upon a little height, he caught me by the shoulder as he sprang, and we both came to the ground together. Growling horribly close to my ear, he shook me as a terrier dog does a rat. The shock produced a stupor similar to that which seems to be felt by a mouse after the first shake of a cat. It caused a sort of dreaminess in which there was no sense of pain, nor feeling of terror, though quite conscious of all that was happening. It was like what patients partly under the influence of chloroform describe, who see all the operation, but feel not the

knife. This singular condition was not the result of any mental process. The shake annihilated fear, and allowed no sense of horror in looking at the beast.

"This secular state is probably produced in all animals killed by the carnivora, and if so, is a merciful provision by our benevolent Creator for lessening the pain of death."—[Livingstone and his Life Work in Africa, p. 148.]

It is pleasant to find in the eloquent writings of Sir Thomas Brown, M. D., reference to this subject; he says: "The certainty of death is attended with uncertainties, in times and places.—[Hydriotaphia, p. 218.]

"The knowledge of future evils mortifies present felicities, and there is more content in the uncertainty or ignorance of them. This favor our Savior vouchsafed unto Peter when he foretold not his death in plain term, [John xxi: 18, 19,] and so by an analogous and cloudy delivery declared not the spirit of his disciple."—[Christian Morals, p. 217.]

"To preserve the living and make the dead to live, to keep them out of their grave, and his course of human fragments in them, is not impertinent to our profession, whose study is life and death."—Hydriotaphia, 278.]

There is another subject which is a cause of painful anxiety to many persons, which is the possibility of being interred before life has become extinct.

It should be known that this subject has been very thoroughly investigated. Dr. Prime, for many years a journalist, made every case that was reported a matter of careful inquiry by addressing a letter to the place where the interment was reported to have occurred,

and as an editor he read of many cases, as usually reported with all the horrors naturally supposed to be associated with them.

His inquiries found not a particle of truth in a single case.

In Europe very alarming stories were told not long ago concerning living interments, which were as groundless as were those heard in this country.—[See *Medical and Surgical Reporter*.]

Our knowledge of the functions of the organs of our bodies will enable us to see how utterly false all these stories must be. If no signs of life can be discovered by the most careful examination of a body, is it not impossible that when shut up in a coffin made as close as it is and covered under six feet of earth, it should breathe again? How long would it be possible for a man in full health to breathe and live covered up in this way? Would any one who has studied the laws of respiration believe that a person believed to be dead, could possibly revive in a grave? Let us reject all these stories, and remove from the minds of those over whom we have influence this dread of premature burial.

There is another fear which seems to be widespread, affecting the cultivated as well as the ignorant, to many distressing—the fear of being eaten by worms after burial. This belief is not without interest to our profession, whose knowledge of the laws of life should enable them to decide as to a question of this kind, and in this department of natural history it is surely worthy of our investigation.

Sir Thos. Brown like a wise physician, and in advance of the age in which he lived more than two hundred

years ago, thus wrote: “While we suppose common worms in graves ’tis not easy to find any there; few in church-yards above a foot deep; fewer or none in churches.”—[*Hydriopatia*, s. 322, Boston Edition of Religious Belief, &c. Roberts Brothers, 1878.]

It is singular that persons who have knowledge of animal life can for a moment entertain this belief. Those who work very little in the earth know that neither worms nor any other creatures are found more than a few inches below the surface.

This belief became prevalent from the observation of worms feeding on the bodies of animals when left unburied in the open air.

Much is due, doubtless, to the poets who have recorded their belief in their writings.

“One destiny’s period men in common have
The great, the base, the coward and the brave,
All food alike for worms, companions in the
grave.”

—*Lord Landsdown, Meditation on Death.*

“The knell, the shroud, the sattock and the grave,
The deep, damp vault, the darkness and the
worm.”

—*Young’s Night Thoughts*, iv, line 10.

The translators of King’s version of Scriptures believed it so firmly that they thought it necessary to make it the belief of Job also, who did not say a word in proof of it as it prevailed then and now (Job 12: 26). A reference to this passage shows the use of italics by which the translators introduced their own belief and that of the age. The new version omits the word worm, and gives the translation thus: “And after my skin has been thus destroyed.”

The Rev. John Breckenridge, a prominent divine of the Presbyterian

Church, was greatly interested in this subject, and during a long life sought for its truth, where it was likely to be found, among church sextons and superintendents of cemeteries—all who would be likely to have any knowledge on the subject. He never found the least evidence of the existence of worms in graves. He never learned that of any of those persons favorably placed for making the discovery, had ever seen a worm of any kind in or on a body interred in a grave.

I met a very intelligent undertaker, who has followed his business for many years, with the best opportunities for learning the truth. During our late war he had the care of the remains of many soldiers which had been interred in the South, and which had been disinterred and sent here. He informed me that he had never seen a living creature of any kind feeding on these remains. He said the same in reference to his experience in a large cemetery and churchyard to which his business has called him during the many years of his service. I do not know any one who is more competent to make such observations or whose testimony could be received with more confidence.

But we are told Job has other references to worms, Job 17: 14, "I have said to the worm, Thou art my mother and my sister." Then surely it will not eat us. The expressions are figurative as "the worm shall forget him, the worm shall feed sweet on him." 24: 20. "My flesh is clothed with worms and clods of dust." 7: 5.

"They lie down alike in the dust, and the worm covereth them." 21: 26. Evil and despised men and weak

men are compared to the horse. The writers so confess themselves, Ps. 22: 6. "But I am a worm." One of the Herods was eaten up of worms and died. Acts 12: 23. And so one of his relatives richly inherited the same termination of life.

We have a report from a correspondent of the *Therapeutic Gazette*, in Paris, of the recent discovery of insects on the bodies found in the Ivry Cemetery, Paris. *Therapeutic Gazette*, March, 1888, 209. The writer describes four species of Diptera, one of the order Coleoptera, two of the order of Thyeamoure.

There must be an error somewhere in the investigations made in the cemetery at Paris. If the eggs deposited by the tition-fly before interment, became maggots in the grave, this will not explain the statement that other creatures two years later reached a body enclosed in a coffin and buried several feet under the ground. There must have been some condition different from interment with us, about which I shall inquire; for after many years of inquiry it is strange that nothing as yet reported has ever been observed. From Paris itself there is evidence against this recent statement. When the cemetery of the innocents was removed in that city in 1786-87, great masses of adipocere were found into which the bodies there interred had been changed. This of course could not have occurred if the animal substance had been destroyed by worms.

Such changes have been observed in this city, and elsewhere in this country.

The reason which some will doubtless propose is Creation, for which all of our friends are not yet ready.

Medical Times.

SELECTIONS.

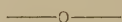
A CHEAP AND EFFECTIVE
TEREBINTHINE BATH.

BY HOWARD PINKNEY. M.D.,
Of New York City.

The following is a simple device for making a very agreeable and effective terebinthine bath. This method of preparing a turpentine bath is probably well known to, and has been used by, many others, the process being so simple I presume they have not thought necessary to publish it. If it has been so published, I have not seen or heard of it. It only occurred to me during a recent and painful illness, and is as follows:—I was being treated by my friend, Professor J. R. Leaming; one portion of the treatment, upon which he particularly insisted, was that certain portions of my body (back and chest particularly) should be rubbed twice daily with a mixture of oil of turpentine and vaselin. These applications gave me great relief; nevertheless, I cannot say I looked forward with pleasure to them, as almost every movement was painful. At this time the idea of replacing the rubbings by a turpentine bath occurred to me. But how to make the bath so that the oil should not float on the water, but be thoroughly and evenly mixed with it, was the question. I thought of the different methods in which I had used turpentine in my practice. The mode of using it with soap, for rectal injections, seemed practicable for bath use. Thereupon I had my nurse make, in a large bottle, a saturated (six ounce) solution of "old yellow soap." When

prepared, three or four ounces of oil of turpentine was added, and the contents well shaken. This formed a very nice, creamy-looking emulsion. I had my bath-tub filled with hot water, and half the emulsion added. I was then placed in the bath, which exhaled a very pleasant and distinctive pine odor. (The unpleasant and pungent vapors from the turpentine seemed to be changed by emulsifying.) After remaining in the bath about five minutes, I experienced a decided feeling of relief from pain, and a genial glow over all the immersed portions of my body. After remaining fifteen minutes I was put in bed, when I soon felt a decided (not unpleasant) tingling or pricking sensation in my skin. In a short time I fell asleep, and when I awakened I was much freer from pain than at any time during my sickness. The baths were continued as occasion required, until my convalescence. Judging from the effects on my own person, I believe that they will prove especially useful in the following diseases, viz., rheumatism, gout, insomnia, laryngitis, bronchitis, and in the early stages of eruptive fevers. There is only one precaution that I know necessary to be taken in using turpentine locally, *i.e.*, to protect all especially sensitive and denuded parts by the application of some salve, as cocoa-butter, simple ointment, etc. These home-made terebinthine baths have the following to recommend them, viz.: They are equal, if not superior, to any of the pine extracts use for baths; they are much cheaper, costing only a few cents; they are cleanly, having an excess of soap; every physician will find at or near the house of his patient

the materials for making, viz., water, soap and turpentine.—*College and Clinical Record.*



MESSAGE IN THE TREATMENT OF SKIN DISEASES.

BY JOHN V. SHOEMAKER, A.M., M.D.

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in the Medico-Chirurgical College and
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Skin, etc., etc.*

As Dr. William Murrell, of London, remarks in his excellent little handbook "On Massage," this mode of local treatment is by no means new, and yet it is but poorly understood and practised by many so-called *masseurs*. This can hardly be due to a lack of pertinent literature, for at the present time the profession is being pelted with works on the subject, and everybody talks about it; the more intelligent, with the greater faith. The trouble is undoubtedly that massage is regarded as a mere instrument, the use of which can be learned at sight, not—as it is—a delicate piece of mechanism whose management requires a large amount of skill and experience. As a certain French writer says: "All kinds of massage are manipulation, but all kinds of manipulation are not massage." Before recommending this mode of treatment then, I desire to say that by massage I mean the professional art; not mere random rubbing, which in many cases is absolutely futile, if it does not do actual harm.

The question may be asked, how massage effects the end we seek to accomplish. The explanation is both

simple and natural. In diseased conditions, besides a sluggish circulation and secretion, and exhausted nerve energy, we have a contingent condition of the tissues in which the cell walls become dense by reason of accumulated deposits. Hypertrophy ensues; the cell contents are cut off from their blood supply and nerve stimulus. Massage, besides exciting capillary circulation and developing nerve energy, mechanically breaks down the walls of the cells and renders the access of nutriment easy and direct.

The application of massage to the treatment of skin diseases is a comparatively recent development of dermatology. But in view of the important functions performed by the skin and its intimate relation to the health and beauty of the body, it seems rather surprising that a possible benefit thereto by the use of massage, has not been earlier considered. In August, 1884, it was my privilege to read before the Section of Dermatology and Syphilis of the Eighth International Medical Congress at Copenhagen, a paper on "The Treatment of Diseases of the Skin by Novel Means and Methods," in which I advocated massage in various cutaneous affections. This paper was an elaboration of the theme I had previously introduced before the American Medical Association in September, 1883 ("Mechanical Remedies in the Treatment of Skin Diseases."—*Vide Medical Bulletin*, Sept., 1883). In the latter article, I gave some directions as to the practice of massage, and I will not repeat them here, as my readers have probably access to the works of authorities on the subject,

or they can at their pleasure consult the article referred to.

In regard to the use of massage, I will say that the results obtained early in my dermatological practice have been confirmed by repeated trials, until I now regard it as one of the most helpful agents at my command. In the dry and scaly forms of seborrhea, in thinning and loss of the hair, *gentle* massage is of great advantage by restoring a perfect capillary circulation, promoting absorption and imparting a healthy tone to the tissues. In case of indurated acne and glandular swellings, it relieves congestion and opens the clogged absorbents, thereby destroying the troublesome lesions and rendering the skin soft and elastic. Carried still deeper, massage is very useful in removing stubborn constipation, together with gastric and intestinal disorders, which are a cause of many skin diseases such as acne, rosacea, hyperidrosis, seborrhea, urticaria and eczema. Excess or deficiency of pigment may often be removed by massage, which promotes absorption and restores a healthy activity to the skin. There is nothing better to remove scurf and sebaceous deposits. The testimony seems to be that it increases the number of red blood corpuscles, and is a valuable adjuvant in promoting oxidation in psoriasis and scrofuloderma. In subacute and chronic eczema it may be used with advantage. In the treatment of the various forms of this affection I have found massage especially efficacious and can recommend it as an excellent agent to control the intense itching. It acts either as a sedative or counter-irritant, according as it is applied gently or powerfully. Neuroses

like neuralgia, perverted sensibility, and tropic disturbances of the skin, may be greatly relieved by massage.

There are many cases of marked infiltration of the skin, in which medication seems utterly ineffectual. The skin is dry, rough, thickened and leathery, having apparently lost completely its functional activity. Such cases will often lead to massage, when all other means fail. On the other hand, exudations and inflammatory products are eliminated by massage. For promoting restful sleep, which is so important in the preservation of healthy cutaneous action, massage is valuable.

Summing up the results of my experience, I may say that, if applied with skill and discretion, there are few cases in which it may do harm.

As a precautionary measure, let me suggest, however, that the part to be treated be perfectly exposed and at ease, so that the best effects of manipulation may be obtained. Also, before operating, have any hair that may cover the surface well shaved off, as it may interfere with the movements and cause a serious irritation. If massage is to be carried on without personal supervision of the physician, great care should be taken to direct the application with great minuteness. You do not want the patient pummelled by a quack "rubber" or pounded black and blue by zealous but inexperienced friends. Massage of the skin should be a *crescendo* movement, beginning with a gentle half-caressing touch of the hand and increasing in force and frequency to each individual case.

In conclusion, I would say that when there is no special lesion of the skin and it is only desired to enhance

the beauty of its texture, its fairness, softness and elasticity, there is no agent so powerful as massage. The well-recognized benefits of friction with a coarse towel are feeble imitations of the results of skilled massage. We are told that Ninon de L'Enclos, who had lovers when she was sixty, preserved the perfect beauty of her skin by brushing it every night with a stiff brush.—*Medical Times*.

—o—

SOUR MILK AND BUTTERMILK IN THE NUTRITION OF INVALIDS AND OTHERS.

Dr. Demuth advocates the use of sour-milk and buttermilk as cheap, effective, and easily assimilable nutritive agents. Both are easily digested, on account of the finely divided condition of the casein and the presence of acids. He also says that buttermilk is useful in all cases where a milk cure is indicated, and is particularly to be recommended in consumption. Sour-milk has shown itself to be very beneficial in scrofulosis, neurasthenia, hypochondriasis, in convalescence, in diseases of the organs of respiration and deglutition, chronic catarrh of the air-passages, nervous disturbances following excessive or exclusive meat diet, dropsy, albuminuria, and Bright's disease. It is also useful in diabetes mellitus. Both forms of milk are efficacious in chronic metallic poisoning and inflammatory and febrile conditions, especially in typhoid fever. They are not to be used in ulcerous processes in the alimentary canal, a fact not always considered in ulcer of the stomach, ulcerating cancer, and tuberculous ulceration of the intestines.—*Vereinsblatt für Aerzte*.

PHYSICAL TRAINING FOR WOMEN.

Training is the word now used by the lights of hygiene and physical science. "Physical culture" is an expression relegated to the ignominy of a snob's vocabulary. But whether we say training or culture, our meaning plainly is that vital question which, in its application to women, is the subject of such free and faulty discussion.

Perhaps the worst obstacle in the way of the enthusiast for physical training among women is the morbid dread that bodily development may be attained at the expense of those delicate personal charms which we all admire in women. This is the greatest nonsense on record. Indiscreet gymnastics carried on by an uninformed person are very likely to destroy the soft deformity so often mistaken for beauty or at least grace of *contour*. But the careful course of muscular exercise, graded by the judgment of an experienced teacher in gymnastics, promotes that symmetrical development which is the essence of true beauty. Physical training as it is now pursued embodies the correction of any bodily defect which is due to a lack of exercise. Students, or rather patients, for they are such, when about to begin a course, are measured by a standard of proper proportions, and their individual deficiencies are recorded. Then the gymnastic training is adapted to their special wants, with the frequent result of entirely correcting the malproportion, and always improving it. In this way women are not only rendered more beautiful, but less prone to the dangerous accidents attending maternity, while their general health is vastly improved.

Salt Lake Sanitarian

A MONTHLY JOURNAL OF MEDICINE AND SURGERY,

Devoted to the prevention and cure of diseases and injuries, and the promulgation of the laws of health and life.

DRS. SHIPP, EDITORS.

SALT LAKE CITY, JUNE, 1883.

EDITORIAL.

PHYSIOLOGICAL ACTION OF ALCOHOL.

It is not our purpose to dwell upon the squalid misery of the "drunkard's home". We do not ask you to contemplate the "blighted life" of that promising young man who sacrificed his prospects to the dreadful influences of drink. Nor would we have you gaze upon the "sad ending" of that brilliant professional, who was so richly endowed with unusual gifts of mental powers, so cultivated in the embellishments of social life, so accomplished in his profession. So haply married and whose expectations were so dazzling. We would not lead you into the "sorrowings" of that devoted wife, who clung to him to the last, and is now ending her days in the cold, unhallowed atmosphere of widow life, nor yet point to the fatherless boy who is deprived of a father's hand to steady his course "up the hill," to guide his future efforts through the shifting sands of human attainments. No! Perhaps you need only go to the next block or it may be to your next door to "see the picture in real life." But rather we seek the attention of the man who "drinks" but never gets drunk—who gives himself

a certain allowance every day under the delusive impression that he is doing himself good, who feels that he has the force and power to use stimulents in moderation, and is of the opinion that in the "wise" use of alcohol in its various forms he receives a benefit. It is this phase of the subject that we wish to discuss. Let us see what is done by throwing alcohol, even in small quantities, into the stomach and what are the consequences. For, there can be no mistake about it, the man that habitually takes his "grog" either does not know or is not wise enough to care, what he is doing. And if we can enlighten his understanding or fortify his moral powers, the object of this effort will be attained.

When alcohol is taken into the stomach it produces warmth and excitement, even in moderate quantities it induces superficial congestion of the mucus membrane that lines the stomach, "and this increased blood supply causes the mucus follicles and the gastric glands to produce a more abundant supply," this is overwork and continuous overwork in any direction is invariably attended by disastrous consequences. The abnormal stimulation of the glands of the stomach when it is habitual, results in important changes. A gastric catarrh is established and the secretions of the stomach that are for the purposes of digestion assume a pathological condition, and are thus unable to properly perform their labors. The glands themselves are injured—undergo atropic changes which cause still greater modifications of the gastric juice. Alcohol has a direct action upon the gastric juice, the pepsin, the

active ferment engaged in the process of digestion is thrown down or precipitated from its solution, thus arresting its activity and destroying its power to digest. Prof. Bartholow says, "The structural alterations induced by the habitual use of alcohol and the action of this agent on the pepsin seriously impair the digestive power. Hence it is that those who are habitual consumers of alcoholic fluids suffer from disorders of digestion—gastric catarrh. The abnormal mucus which is elaborated in great quantity, acts the part of a ferment and the starchy, saccharine and fatty elements of the food undergo the active, lactic and butyric fermentation. Acidity, heartburn, pyrosis, regurgitation of food, and a peculiar retching in the morning (morning vomiting of drunkards) are produced."

But the trouble does not end here. Alcohol is very diffusible and almost immediately on entering the stomach at least very rapidly it is taken up by the stomach veins and carried to the portal veins and by them to the liver. This blood so highly charged with alcohol has a selective action upon the liver cells, stimulating them to overwork and as a natural consequence a more abundant glandular secretion follows. This impairs the function of the cells, they produce an imperfect product, and are affected by fatty changes, thus the liver becomes diseased. With a diseased liver healthy blood soon becomes contaminated and it is only by healthy blood that the normal condition of the vital phenomenon can be maintained. The blood corpuscles that are rolling through the life current of the circulation when they become charged with

alcohol are unfitted to properly carry to the parts the nutrition necessary for their repair, and are impaired so that they cannot cart away the diseased products and the waste of the system, and as a result the consumer of stimulants is urging his steeds to an untimely grave. He may shut his eyes, but 'tis the inevitable. The following extract I take from the *Medical Record*.

"Under the title of "The Influence of 'Nipping' upon Health," Dr. Harley, the English hepatologist and nephrologist, discusses, in the January number of the *Provincial Medical Journal*, the injurious effects of drinking alcoholic beverages "in moderation." He says that the majority of men are moderate drinkers, and, as a consequence, most of one's patients belong to this class. Comparing the mortality tables of men exposed to the temptation of frequent "nipping" with those of men not so exposed, the result is "startling in the extreme, more particularly as regards the proportion of liver diseases." For it would appear that the rate of mortality is six times greater among those whose business is practically inseparable from "nipping," than among those representing all the other industries combined.

It appears further, that, after the liver, the kidneys, the heart, and the nervous system becomes most frequently affected in moderate imbibers. Dr. Harley says that "it is not difficult to understand why the liver, of all organs in the body, should be the most affected by 'nipping,' when it is remembered that almost every drop of alcohol taken into the stomach is absorbed by the branches of the portal veins, is conveyed directly to the liver, and has to filter through its tissues, ere it can

get into the general circulation, and by it become distributed to the other organs of the body.' He also showed, so long ago as 1853, that the mere injection of alcohol into the portal vein in dogs is sufficient to disorder the hepatic functions to such an extent as to cause the animals to become diabetic in the short space of from two to three hours.

"As regards the bad effect of 'nipping' upon the heart, it consists in inviting disease in the predisposed, as well as in augmenting disease which already exists.

"Finally, with regard to the nervous system, Dr. Harley believes that alcohol taken in small quantities at a time, but frequently repeated, acts deleteriously by keeping the blood-vessels on the stretch, by engorging them, and causing them to press upon the nerve-cells and fibrils. This interferes both with the proper performance of their functions and with nutrition.

"Dr. Harley gives the following telling statistics:

Death-rate of men between the ages of twenty-five and sixty-five.

MEN EXPOSED TO THE TEMPTATIONS OF "NIPPING."

	Liver diseases.	Urinary diseases.
Commercial travellers . .	61	44
Brewers	96	55
Inkeepers, publicans, vintners, barmen, and waiters	240	83

"The comparative death-rates of men of the same age engaged in other industries, not exposed to the temptation of 'nipping,' are, again, as follows:

DEATH-RATE OF MEN NOT EXPOSED TO THE TEMPTATIONS OF "NIPPING."

	Liver diseases.	Urinary diseases.
Gardners and nurserymen	18	39
Printers	28	30
Farmers and graziers . .	41	31
Drapers and warehousemen	35	37

"In addition to the above Dr. Harley cites the following statistics of beer, which apply to Prussia:

PROBABLE DURATION OF THE LIFE OF MEN.

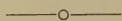
Age.	In the liquor trade.	Not in the liquor trade.
25	26.23	32.08
35	20.01	25.92
45	15.19	19.92
55	11.16	14.45
65	8.04	9.72

"Further statistics are given, showing the extraordinary excess of mortality from liver disease among innkeepers, bar-tenders, vintners, waiters, and publicans, as compared with persons in other occupations. The ratio is as six to one."

Our space warns us to close this discussion but we feel we have just grazed the subject. It is of such magnitude in its importance that we consider it the imperative duty of the profession to bring to bear the weight of their influence from a professional standpoint, to assist the moral factors that are at work, to educate the masses in the scientific aspect of this question, that we may hope for the obliteration of the class of "moderate drinkers" for they are the worms that crystallize into the full-fledged drunkards.

WE desire to express our acknowledgements to many of the leading firms of our city for the liberal favors shown us in giving us "ads" of their business.

Our readers may feel assured that this same liberality will attend any business transactions they may have with them, for they are "first class" houses and are to be depended upon.



INFANT FEEDING.

We have received this week the *Medical Times*, containing the very interesting report of the sub-committee of the American Medical Association—Lecture of Dietetics on infant-feeding. The subject is of grave importance. The season of the year is approaching when the mortality list of the "little ones" reaches its greatest length. With the heat of summer now upon us our greatest care will be demanded to preserve the health of the children. In the report read by Dr. Wood we find some valuable hints.

Americans are beginning to recognize the value of dietetics, and the question of what to cook, and what to eat and drink, that which will secure the highest degree of comfort and extend life, is being asked more and more. This has turned dietetics into a practical knowledge. It stands in the front rank of the medical art. Dietetics has joined hands with organic chemistry, to elevate the popular tastes, and promote a deeper scientific research that will in the end find that which will maintain human life, appease hunger and promote health from the cradle to the grave. Dietetics has joined hands with physiology, and clearly illustrated the various properties of vegetable and animal tissues. We know that food which is suitable for digestion prevents disease, and being well prepared, is made inviting to the taste and suitable to nutrition.

Dietetics has taken the physician into its hands and has led him into new and fresh fields. It is found to be easier and far more profitable to lead the patient back into the path of health by a judicious nourishment and dieting, than by giving him horrid doses of powerful medicines, etc., etc. Perhaps in no other class of maladies is the finess of the alimentation so supreme in importance as in infancy. The mode of feeding children and treating them under one year of age is in many cases almost criminal, when we consider the large percentage of deaths.

It is believed that a large majority of cases of sickness of children, especially during the summer months in cities, is caused by over-heat, but the effects of hot weather and crowded cities, though bad, is over-rated. There are two causes of this trouble; first, the vendor of adulterated milk—milk that has been kept in vile vessels—watered milk—adulterated milk—milk that has been obtained from diseased cows, who have been confined in hot, filthy stables throughout all their miserable lives—such milk as this slays thousands of helpless babes in this land of ours each year. Such milk at this is unfit for any purpose, and it should be kept out of America. Those who vend such milk are deliberate criminals. The other class of infant's diseases is caused by mothers and nurses who will persist in over-feeding babies, dreading starvation, and forgetful of the fact that when a baby cries it wants water, not milk.

As to the difficulty of obtaining milk, thousands of children might be saved, by reasoning out what is the best substitute, and what is the best

substitute for the individual case. Cow's milk would seem to be the most rational substitute ; but there are many cases where the infant cannot digest the milk, where it can digest some starch foods. In the absence of knowledge, we go on treating the infantile martyrs, regulated in our course of treatment only by whatever common sense we have, and the personal experience of the individual practitioner.

Through the knowledge of dietetics the members of the Medical Profession have become the custodians of the public life of the people of America. It is our duty to attend to the health and future welfare of the American race. It is the duty of this Association, of this Medical Convention, to warn our people of the danger threatened, and to direct its powerful organization against the evils, which if not arrested, will result in disaster to the people and nation.

The Committee would also call the especial attention of the Association to the various so-called artificial foods that are being manufactured, and that fill our drug stores throughout the country and are sold as fit food for infants and invalids. Many of these compounds are highly injurious, and yet they are being sold in large quantities. On this subject the American Medical Association must exercise its authority in the most positive manner. What is wanted is a thorough investigation of these various compounds by a committee of competent men who will command the confidence of the country.

REPORT OF SUB-COMMITTEE ON
INFANT-FEEDING.

Your Sub-Committee on Infant-Feeding respectfully reports that it

has only had the subject under consideration for about two months, and during this time it has opened correspondence with some of the leading authorities, both in this country and in Europe, upon the very important questions submitted to it, especially with reference to the proper diet of infants. Though not prepared to make a final report upon the subject at present, it believes that some facts have been elicited which are valuable and which are of sufficient interest to bring before this association.

Thus far, replies have been received from Dr. Eustace Smith, of London ; Dr. J. Lewis Smith, of New York ; Dr. Victor C. Vaughan, of Ann Arbor, Michigan ; Dr. George H. Rohe, of Baltimore ; Dr. F. Forchheimer, of Cincinnati, and others, to whom we desire to return thanks for their assistance and courtesy. (The correspondence and replies to queries submitted are appended to this report.)

The leading facts thus far obtained may be briefly stated as follows :

1. In the case of an infant, or a child under ten months of age, deprived of breast-milk, the artificial substitute provided should be made to correspond with human milk as closely as possible, both in its chemical constitution and in its physical characters.

2. Fresh, unadulterated cow's milk, when properly prepared, is an acceptable substitute for breast-milk. But since the casein of cow's milk coagulates in a heavy, dense mass, while breast-milk curd is light and flocculent, some expedient must be resorted to in order to make the former resemble the latter, so that the digestive powers of the infant shall not be unduly taxed. The casein of cow's milk, according to

Dr. Eustace Smith, as the rule, traverses the infant's alimentary tract and may be found unchanged in the fecal discharges. It is, therefore, a constant source of irritation, and often gives rise to diarrhoea and enterocolitis. One of the most decided advances in dietetics in modern times, is the preparation of cow's milk with the aid of digestive agents, as in the method recommended by Prof. Frankland. In this method the casein of a portion of the milk is first peptonized by fresh calf's rennet, and to this is added a portion of fresh milk, after heat has been applied to check the process and to prevent complete predigestion; some milk-sugar is finally added, and thus a mixture is obtained which closely approximates human milk in its chemical composition. It has, moreover, been found to serve as an efficient substitute, where the mother's milk is of poor quality, is inadequate in quantity, or is entirely wanting. The special feature of this method is the peptonizing of only a part of the casein, with the employment of heat at a certain stage to arrest the process so that the food shall not be completely digested. The addition of the carbo-hydrate (milk-sugar in this case) is necessary, in order that the food shall closely resemble human milk. The employment of stale, foul-smelling, partially decomposed digestive ferments, for the purpose of preparing cow's milk for infant's food is condemned. The necessary skill and intelligence required to insure uniformity of result for the extemporaneous peptonizing of milk is rarely to be found in the household, and where this process is adopted, the experiment often turns out to be unfortunate and injurious to the child.

3. As the rule, raw starch is inadmissible in the diet of young infants, because the digestive powers of the infant are rarely sufficiently active to convert crude starch into a soluble form. The plan advocated by some, of adding the starch to the milk in order to mechanically break up the curd, is unphysiological and very objectionable. The products of the complete digestion of starch are glucose and saccharose (maltose), and these, in various forms, have been recommended to be used as addition to the milk, under the name of "Liebig" foods. When in excess, these substances cause diarrhoea, and when given alone do not sufficiently nourish the child. Dr. J. Lewis Smith speaks favorably of dextrine, which is partially digested starch, as a good substitute for glucose and saccharose in such artificial foods. The fact cannot be too strongly insisted upon, which is taught by both clinical experience and physiological investigation, that the food of either infants or adults, except in special emergencies, should never be fully predigested, for fear of permanently weakening or destroying the digestive functions of the stomach.

4. A great part of the large mortality of infants in all our cities is due to the bad quality of the milk supply, particularly that going to the poorer classes. Professor Vaughan declares that many deaths from so-called cholera-infantum are really caused by milk containing tyrotoxinon. Authorities are almost unanimous upon the point that in large cities, at least during hot weather, all milk for the nursing bottle should be boiled several times a day, in order to destroy ferment-germs. It is better, at such time, that

the food should be freshly prepared for each feeding. In some cases, owing to the variability in the quality of the milk-supply, it may be advisable to resort for a short time, to condensed or evaporated milk; in either case diluting and adding cream, or an equivalent, soluble carbo-hydrate, in order to make an artificial breast milk. Desiccated partly peptonized milk, in the form of a milk food, containing partly converted starch (soluble starch and dextrine,) and a small quantity of lactose is a convenient (and when well made, a very efficient) substitute for the mother's milk.

5. Where a child is a premature birth, or is feeble from other causes, as great care should be observed in preparing its food as in prescribing its medicine. Experience has demonstrated that success in infant-feeding is dependent upon the ability to individualize the patient, and to select the proper food for each case. For very delicate infants the mother's milk is often found not only inadequate to properly nourish the child, but positively injurious. This is generally admitted where some obvious dyscrasia exists, as tuberculous or syphilitic. It is a fact that in such feeble infants artificial mixtures can be made which will agree with the weak digestive functions and satisfactorily nourish the child.

In conclusion, your sub-Committee would direct attention to the remote and far-reaching effects of the mal-nutrition resulting from improper feeding in early life, to be witnessed in chronic invalidism or in premature death of the individual, and to the inevitable physical degeneracy threatening the race where the principles of in-

fant dietetics are neglected. In view of the importance of the subject, the sub-Committee respectfully ask to be continued in order to further investigate the matter, and to report to the next meeting. All of which is respectfully submitted.

FRANK WOODBURY,

Chairman of the sub-Committee on Infant Feeding.

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MOTHERS' METHODS.

BY E. R. SHIPP, M. D.

Now that the hot season is approaching with its concomitants, summer complaint and diarrhœas, we desire to say a few words to mothers concerning the care of their little ones and arrest their attention early—for, "to be forewarned is to be forearmed."

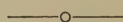
We feel assured that the majority, if not all of the infantile diseases could be avoided if but one or two points were strictly observed—the character of food—the manner and frequency of taking that food into the system.

Let us first give a little resume' of the usual methods of mothers in infant feeding. Take for example the "little one" but a few hours old. It feels a peculiar and indeed a wonderful change in its organism and environment. Everything to it is new and strange. Its lungs but recently coming into action are used to their fullest capacity. Yes! the baby cries, and the mother instinctively feels that it is hungry. And it is certainly proper that it should be early put to the breast, for various reasons we will not now pause to discuss. But remember that it should have all that it can take. Though but little is required

that little should be given, so that the stomach should have all it is capable of digesting. Then a sufficient length of time should intervene to enable the stomach to dispose of its contents before another supply is given. But perhaps in ten minutes the baby is crying again from some cause altogether foreign to that of hunger. But the inexperienced mother imagines it is hungry and gives it another draught. As a natural consequence the little stomach becomes greatly distended and really causes pain and the baby cries again. So what does the mother do but repeat the process—or it may be that the good old grandmother comes in with the saucer and tea-spoon and feeds it with a little catnip or saffron, or “pobs.” With such management can we wonder at the early gastric disturbances, the frequent regurgitations of milk, the abundant formation of gas, and the pitiful crying of the suffering babe? And after such a beginning what can we expect during the much-dreaded “second summer.” The nutritive functions perverted and impaired, the brain and spinal column congested and in a state predisposing to inflammation through the nervous irritation associated with dentition, together with Utah’s ever-varying temperature. The excessive heat of the day, changing so suddenly at the setting of the sun, due in most part to the canyon and mountain breezes wafted from snow capped peaks. Need we be astonished at the many little mounds that sadden our vision as we reflectively wend our way through the city cemeteries.

Mothers imagine that nursing or feeding is a panacea for all its ills. Whenever it cries, whatever the cause,

the first thought is to press it fondly to the breast, instinctively feeling that the fountain of nourishment is as inexhaustible in life-giving principles as is the fountain of her love, or as unfailing and unquenchable. It is very seldom the infant suffers through the want of food, on the contrary, the great cause of the pain, the sickness, and oft-times the loss of our precious ones is *too frequent feeding*. Children—yes, even the youngest infants, should have “regular meals” the same as adults, and this regularity should be practiced from the very beginning. At first they may nurse as often as every two hours [when awake, but never waken them to give them food. As they grow older the intervals may be lengthened until they will need to take nourishment but three times in a day. The breast milk is the natural food, and is the very best for the sustenance of the offspring, but sometimes it becomes necessary to substitute artificial food, and for its preparation the utmost caution and care is required.



THE INFANT FOOD PROBLEM.

*Read by W. B. Atkinson, M. D.,
Member of the Committee of
Dietetics of the American
Medical Association.*

To the general practitioner everywhere, there comes constantly the question, what means shall be employed to prevent the terrible mortality among infants deprived of their natural food, the mother’s breast-milk. As it is in very many instances impossible to place the child outside the walls of a large city, this want of proper hygienic surroundings acts as one great

factor in the production of disease. But perhaps the most active cause of disease is the exhaustion of the vital powers from the want of those articles, which being properly and readily assimilated, aid to maintain the body in its highest and healthiest condition. We all know that, other things being equal, that child which has been able to keep its system in the best state, its blood rich and pure, its muscles plump and firm, is sure to pass through an epidemic of children's affections either entirely unscathed or suffering only from a slight attack, readily throwing off the disease and never being troubled with the sequelæ.

Defective nutrition, then, is the predominant factor in the causation of the fearful mortality everywhere observed among children. We need only point to the statistics of children's hospitals, foundling asylums and similar institutions to show the truth of this proposition.

To us, as physicians and sanitarians, as citizens earnest for the welfare of this great republic, this comes with powerful import. An additional fact also appeals to us, when we learn that the vast majority of these are native-born offspring, while those who survive are largely the children of foreigners. This is shown by the valuable statistics of such investigators as W. Nathan Allen. Though we are compelled to admit that other causes, and one a very potent factor, produce the great disproportion between offspring of natives and foreigners, yet it must be admitted that the truth of our original proposition is still evident, that defective vitality causes a vast majority of deaths among infants, and even in children of larger growth.

The latter fact is constantly shown by the great mortality which prevails, when, by reason of short crops or other causes, the people are unable to procure the food needed to maintain their systems at par, and thus resist the inroads of disease.

It goes without saying that the infant should be raised on its mother's milk whenever possible. When, for any cause, this fails, then comes the question, What shall be the substitute? Abroad, the milk of asses and goats is in quite common use. Cow's milk being that most easily obtained, is most largely employed, in this country. This being the fact, we next come to the consideration as to how the two kinds of milk differ and what is needed in order to cause that of the cow most nearly to approach that of the human being?

Cow's milk contains more proteid matter, more fat, more mineral matter and less sugar, and as a rule in health, human milk is alkaline, while cow's milk is often slightly acid. One special difficulty with cow's milk is that its casein is more or less likely to form an insoluble mass by contact with the gastric juice, while the casein of human milk is in part a peptone and forms a very delicate coagulum when in contact with the gastric juice.

The object is always to produce a food for infants closely resembling in its composition mother's milk, and the nearer this is reached in all its details, the more surely will such food prove wholesome and valuable to the infant.

Our idea of a standard infant food when produced, would be as follows: Be sure to obtain the milk of a healthy cow. Just here we may premise that

we do not believe in the common fallacy "one cow's milk." The mixture of the milk of several healthy cows is more likely to give an article of real value. Undoubtedly, many in this audience can substantiate the claim that it is most usually the pet cow, from which the milk is obtained which is put by for the sick baby, that receives all the banging, hurrying and pelting, and as we all know, is thus likely to yield a milk which may actually be poisonous in its nature. The best combination would be pure milk diluted with sufficient pure water to reduce the relative proportion of albuminoids and mineral constituents most nearly to that of human milk, then partially peptonize or digest it, and finally, adds a soluble carbo-hydrate with sufficient alkali to produce as close a resemblance to breast-milk as may be. We must not forget that peptonizing milk does not relieve us of the need of being sure that the milk is at the outset pure and fresh.

The milk supply of large cities has now become one of the great problems of the day. Churned in the cars to the city, then more thoroughly churned in the wagons over wretchedly paved streets, distributed in many cases from doubtful cans by persons of much more doubtful appearance as to their own cleanliness; the flavor often aided by the puffing of a cigar or filthy pipe on the part of the distributor, the article is received in many cases in a receptacle of equal doubt as to cleanliness, it is placed perhaps in a food chest, or so-called refrigerator, exposed to the atmospheric contact of other articles of food; is it to be wondered that the milk becomes of a very doubtful form as to its propriety as an infant aliment?

To a certain extent, these objections are met by the new plan of delivering what is called "whole milk." The milk, immediately after being drawn from the cow, is very carefully placed in glass jars. These being quite full are hermetically sealed so that there can be no opportunity of churning or adulteration or the absorption of odors or disease germs.

For children who have passed the age of infancy, I have long been in the habit of urging the employment, particularly during hot weather, of what is called "evaporated milk."

Its claims were that it was milk from healthy cows, well-fed, and being of a density greater than cream, churning and souring were less likely to occur during its transition to the city. Again, it was very much less ready to absorb or appropriate the odors, etc., to which it might be subjected. I have found this more easily borne by the child, and repeatedly I have been compelled to substitute it for the "condensed milk," where a certain proportion of sugar is added to preserve the article.

For these reasons, Professor Vaughan urges the use of dried milk solids, that is, they can be transported without injury from any distance, and if properly prepared may be kept without putrefaction occurring. Now, if such pure milk from perfectly healthy cows was partially predigested by the process of peptonization with fresh pancreatine, the temperature then sufficiently raised to destroy the remaining ferment, reduced to a powder by evaporation, and to this, dextrine added, thus supplying the carbo-hydrate, we would then be as near the production of a proper food for infants

as might be possible in the absence of the breast-milk.

By recent researches, we have been taught that dextrine is the best form of carbo-hydrate, as it is non-fermentable and does not irritate the stomach of the infant, is easily assimilated and, unlike cane sugar or maltose, is not likely to take on acid fermentation. Roasted wheat flour has long been employed and recommended as an article of food for infants, and particularly where diarrhoea is present. The reason of this is because this process converts the starch of the flour into dextrine.

The malt sugar or "Liebig Foods" are no doubt often valuable, particularly in infantile constipation, for their laxative effects; but are extremely liable to continue a diarrhoea or increase it. When these are used for their laxative effect, it is safer to use them alone rather than with milk, lest their fermentative tendency be aggravated by the presence of too great a quantity of albuminoid matter.

I am incited to this remark by the remembrance that the Liebig Foods do not by themselves meet the requirements demanded for infantile nutrition, unless with the addition of cow's milk. By an examination of the analyses of such mixtures, we find that they add no essential to cow's milk; nor do these foods act chemically upon the casein, nor physically, by reason of their solubility; and as I have before remarked, they may give rise to disorders of digestion, in consequence of the readiness with which they take on fermentation.

Farinaceous foods are of course out of the question, because of the absence of ptyalin in the secretion of the saliv-

ary glands in the earlier years of infancy. The addition of starchy matters to cow's milk, for the purpose of rendering the coagulum less dense and more easily broken up by the stomach, as has been recommended by some authorities, is wrong in principle; it really adds an indigestible element, which cannot fail to act as a foreign body, sure to produce fermentative acidity, diarrhoea and the usual train of evils.

The milk foods when diluted with water in accordance with directions, should correspond in nutritive value with human milk. Now that this correspondence should be more nearly perfect, they should also be partially predigested or peptonized, in order that the casein may be rendered more acceptable. It is also necessary that sugar in some form should be added.

In peptonizing milk, it is of the greatest importance that the pancreatic extract which is employed should be pure and fresh. The odor of some digestive ferments as furnished by the stores, is such as to give rise to the suspicion that they are already assuming the putrefactive tendency. In fact, it is a very difficult matter to preserve them, as it is well-known that the products of the pancreas are much more readily decomposed than any known animal substance. Hence the greatest care will be necessary that there shall not be the slightest possibility of the presence of putrefactive germs in any of these articles that may be employed to aid in the preparation of the diet of infants. The peptonizing of milk, although apparently a very simple matter as practised in the laboratory, yet is scarcely feasible in the household.

Another point is of great importance. Malt sugar is eminently prone to absorb moisture and hence it should not be combined with dried milk, and then put in bottles or other form of package for family use, because, as these packages are only partially used at one time, the balance is extremely liable to absorb moisture, resulting in fermentation; and this is more especially the case in hot weather or when kept in a hot room.

We cannot too strongly urge upon all who are compelled to prepare food for infants, the great, the imperative necessity of using only water that has been boiled. To the medical man, the reason is plain, yet it would not be amiss for him to explain in each instance why this should be done. Just here it is equally important to see that the water is not cooled by the addition of ice, as we may thus return at once to the water the very organisms which the boiling was intended to expel. I am impelled to this remark by the remembrance of an inspection just made for the State Board of Health of Pennsylvania. The subject of complaint was the ponds from which the ice was obtained to supply the demands of a large town. These ponds were filled with water from a stream, really nothing but a drain for a full graveyard, one or more slaughter-houses, a large number of cess-pools which were in constant use, and a large area of swamp land.

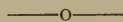
In diluting any form of infant food, we should give positive definite quantities. Undoubtedly all of us have encountered many cases where the child was really starving, while apparently receiving a large quantity

of fluid. The fact is that the dilution had been carried too far.

It is unnecessary for me to occupy your time with further points as to times for feeding or of necessity for using bottles, etc., etc.

Before closing, I may remark that in my investigation of foods for the preparation of a paper which may be read elsewhere, I received from my friend Chief Medical Purveyor Baxter of the United States Army, a tabulated analysis of some fifteen forms of foods. Of these, only four contained more than ten per cent. of nutritive material, thus showing that even here we are likely to be deceived, and to be employing an article as useless for its proposed purpose as the too largely diluted food of the infant already mentioned.

In conclusion, permit me to say that it has long been my custom not only in my practice, but also in my teachings, to urge the giving of less medicine, using it only when imperatively demanded, and to insist upon the value of proper hygiene and proper nourishment, believing that these alone in many cases will at once place the child on the road to health, and if persevered in, will, as a rule maintain it there.



Convulsions may be frequently cut short like magic by turning the patient on his left side. Nausea, occurring as an after-effect of chloroform and other narcosis, may generally be controlled in the same manner.—*Chicago Medical Times.*

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No. 4.

THE TOBACCO HABIT AS VIEWED FROM A SCIENTIFIC ASPECT A HALF CENTURY AGO.

Our pity, compassion and astonishment are frequently highly excited when perusing the tales of missionaries and travelers among the heathenish nations of the Southern Pacific. We learn that, among other enormities, the betel-nut is with many of the islands an article of extensive trade, whose only use is to blacken the teeth and render hideous the faces of its consumers, and that whole ship-loads of sandal-wood are moved from place to place to supply ignorant devotees with perfumes to burn before their wooden gods. That these should be used with the most persevering assiduity solely from a vitiated habit taxes our credulity, and we join in exclaiming, when will the light of reason burst upon these benighted nations, and mind, freed from all its debasing alliances, be permitted to rush forward to its own peculiar though long-lost eminence?

The ignorant Esquimaux, to support his existence, swallows the filthy train oil, and our delicate nerves are fearfully excited by the loathsome recital; but can we receive without emotion the intelligence that a nation professing to be the most civilized and

refined, the most Christian and moral on the globe, whose missionaries visit every corner of the footstool, and the spires of whose churches pierce the ether of every landscape, is *wholly* enslaved by the use, in various forms, of a narcotic weed which ruins the health, benumbs the moral faculties, and destroys the estate? I propose to inquire briefly into the effects of such a habit, and to urge upon your candid consideration a few reasons why the use of tobacco should be wholly discountenanced by civilized countries.

In entering on a ground to myself so new, and which has been so frequently debated by men of eminent moral and intellectual attainments, I shall not rely upon my own information, but shall make free use, *by way of extract*, of those essays I have been able to consult on the subject, and from these draw whatever inferences I may think available for my purpose. It seems on consulting history that the introduction of tobacco into Europe during the sixteenth century was not greeted with a very cordial reception by those who regulated the manners and morals of communities. "The civil and ecclesiastic powers were marshaled against it, and popish anathemas and royal edicts, with the severest penalties, not excepting death itself, were issued. In the reigns of

Elizabeth, of James, and of his successor, Charles, the use and importation of tobacco were made subjects of legislation. In addition to his royal authority, the zealous King James threw the whole weight of his learning and logic against it in his famous 'counter-blaste to tobacco;' he speaks of it as being a sinful and shameful lust, as a branch of drunkenness, as disabling both persons and goods, and in conclusion declares it to be a custom loathsome to the eye, hateful to the nose, harmful to the brain dangerous to the lungs, and in the black and stinking fume thereof nearest resembling the horrible Stygian smoke of the pit that is bottomlesse."

It happens to be a part of our natural constitution more plainly to see the inconsistencies of neighbors than to comprehend our own imperfections. From a superficial examination, or rather, perhaps, from our own self-sufficiency, we too frequently allow ourselves to settle into a state of perfect contentedness, the monotony of which is seldom broken unless by the discovery of some very marked fault in other *distant* members of the vast community of mankind. This feeling, it may readily be perceived, must be productive of anything but beneficial results on temperaments which require for their own health the most rigid self-examination.

From its irregular effects, we shudder at the supposed indelicacy of the rat-eating Chinese or at the frog-devouring appetites of the more polished Frenchmen. For the same reason, too, King Henry VIII., with the coarse wit of his time, used laughingly to say if he was going to make a feast for the devil he would give him a

boiled pig, and after it a pipe of tobacco by way of *digestion*.

In the early laws of the New England colonies decisive measures were taken to prevent its use. Increase Mather writes to his son Cotton: "My son, if smokers tempt thee consent thou not, for truly had tobacco been known at the time of the Levitical law, its use would have been prescribed among unclean sins." But this moral pestilence routed the united force of Church and State, and to this day communities remain in its ancient thralldom.

The spectacle of such a universal dereliction from integrity has justly excited the surprise and pity of the great and good. We find the great Dr. Rush (I call him great because he was a benefactor of the human race) exclaim in this manner:

"Were it possible for a being who had resided upon our globe to visit the inhabitants of a planet *where reason governed*, and to tell them that a vile weed was in general use among the inhabitants of the globe he had left which afforded no nourishment, that this weed was cultivated with immense care, that it was an important article of commerce, that the want of it produced real misery, that its taste was extremely nauseous, that it was unfriendly to health and morals, and that its use was attended with a considerable loss of time and property, the account would be thought incredible, and the author of it would probably be excluded from society for relating a story of so improbable a nature. In no one view is it possible to contemplate the creature man in a more absurd and ridiculous light than in his attachment to tobacco."

Another distinguished physical writer carries his surprise still farther, and in view of the vast prostration of moral energy and the devastation of unnatural habit, thus speaks: "In the great kingdom of living nature man is the only animal that seeks to poison or destroy his own instincts, to turn topsy-turvy the laws of his being, and to make himself as unlike as possible that which he was obviously designed to be. No satisfactory solution of this extraordinary propensity has been given short of a reference to that

first disobedience and the fruit
Of that forbidden tree, whose mortal taste
Brought death into the world and all our woe,
With loss of Eden. . . . "

While myriads of sentient beings spread over the earth adhere with unyielding fidelity to the laws of their several existences, man exerts his superior intellect in attempting to outwit nature and to show that she has made an important mistake in his own case. Not satisfied with the symmetry and elegance of form given him by his Creator, he transforms himself into a hideous monster, or copies upon his own person the proportions of some disgusting creature far down in the scale of being. Not content with loving one thing and loathing another, he perseveres in his attempts to make bitter sweet and sweet bitter, till nothing but the shadow is left of his primitive relishes and aversions. This is strikingly exemplified in the habitual use of the narcotic or poisonous plants. Perhaps their effects upon animal life, as exhibited in experiments and recounted by the experience of those who have been its slaves, may be useful in

detering reasoning beings from farther prostitution of their physical energies. In presence of a few members of the medical class Dr. Murry performed, among others, the following experiments:

A small drop of the oil of tobacco was rubbed upon the tongue of a large cat. Immediately the animal uttered piteous cries and began to froth at the mouth. After an expiration of seven minutes another drop was applied to the tongue. In an instant the eyes were closed, the breathing was suffocative and convulsed; in one minute the ears were in rapid convulsive motion, and tremors and convulsions were extended over the body and limbs; in three and a half minutes the animal fell upon the side senseless and breathless, and the heart had ceased to beat. Three drops were rubbed upon the tongue of a full-sized cat. It dropped upon the floor and expired in great convulsions two minutes and three quarters after the oil was applied. Two drops were rubbed upon the tongue of a red squirrel. This animal, so athletic as to render it difficult to secure him long enough for the application, was in a moment seized with a violent agitation of the whole body, and was perfectly dead and motionless in one minute. When applied to sensitive surfaces of considerable extent, even in a form somewhat dilute, tobacco often produces the most serious effects. The tea of tobacco has been known to destroy the life of a horse when forced into his stomach to relieve indisposition; or tea of twenty or thirty grains of tobacco, when introduced into the human body to relieve a spasm, has been known repeatedly to destroy life.

So powerfully active is this pernicious weed, that the life of the unhappy patient has been destroyed by the application of a single moistened leaf to the region of the bowels. A physician was consulted by a lady in case of her daughter, who had a small ringworm at the root of the nose. Her object was to ascertain the doctor's opinion as to the propriety of making a local application of tobacco in the case. He objected to it as being an exceedingly hazardous measure, and left the house. Immediately after the doctor went away the mother besmeared the tip of her finger with a little of the *strong juice* from the grandmother's tobacco pipe, and proceeded to apply it to the ringworm, remarking that if it struck to the stomach it must pass through the nose. The instant the mother's finger touched the part affected the eyes of the little patient were rolled up in their sockets, she sallied back, and was caught in the act of falling by the alarmed mother. The part was immediately washed with cold water, with a view to dislodge the poison. But this was to no purpose, for the jaws were already firmly locked together, and the patient was in a senseless and apparently dying state. The doctor was instantly called in. He succeeded in opening the jaws so as to admit of the administration of the spirits of ammonia and lavender, frictions were employed, and everything done which at that time were thought likely to promote resuscitation; but it was an hour or an hour and a half before the patient was so recovered as to be able to speak. Till that time she had been robust and healthy, but since the tobacco experiment she has been con-

tinually feeble and sickly. For four or five years she was subject to fits every two or three weeks dangerous to her life, and lasting from twelve to twenty-four hours.

The habitual use of tobacco often occasions distressing tremors of the limbs resembling the palsy. While Dr. Franklin was ambassador in France he became acquainted with Sir John Pringle, a celebrated English physician, an inveterate snuff-taker, whose hands were trembling and the whole nervous system greatly affected. The doctor advised Sir John to leave off the use of snuff. He did so. A few years afterward Franklin met him in London entirely free from tremor of the hands, as well as from all other nervous complaints.

The foregoing facts serve to show that tobacco is one of the most active and deadly vegetable poisons known: it acts directly upon the nervous power, enfeebling, deranging or extinguishing the actions of life. Is it possible that the *habitual* use of an article of so actively poisonous properties can promote health, or indeed, fail to exert an injurious influence upon health? It will readily be admitted that the daily use of any article which causes an exhaustion of the nervous power beyond what is necessarily occasioned by unstimulating food or drink and the ordinary physical agents, is not only useless, but hurtful, tending directly to produce disease and premature decay.

From the *habitual use* of tobacco in either of its forms the following symptoms may arise: A sense of weakness or pain at the pit of the stomach, dizziness or pain in the head, disturbed sleep, starting from early

slumbers with a sense of suffocation or the feeling of alarm, incubus or nightmare, weakness of the mental faculties—Dr. Rush mentions an instance of a man who at the age of forty lost the use of his memory entirely through the excessive use of snuff—peevishness of temper, long fits of melancholy and despondence, and in some cases *entire and permanent mental derangement*.

The animal machine, by regular and persevering reiteration or habit is capable of accommodating itself to impressions made by poisonous substances so far as not to show signs of injury under a superficial observation, provided they are slight at first and gradually increased; but it does not hence follow that such impressions are not hurtful. It is a great mistake, into which thousands are led, to suppose that every unfavorable effect or influence of an article of food or drink or luxury must be felt immediately after it is taken. The vital principles of the human body can so far resist the influences of a variety of poisons slowly introduced into it that their effect shall be unobserved till, under the operation of an exciting cause, their accumulative force breaks out in the form of some fearful or incurable disease. The poison which comes from vegetable decompositions on extensive marshes and the borders of lakes, after being received into the body, remains apparently harmless, in some instances a whole year, before it kindles up a wasting intermittent or destructive bilious fever.

But though there be few things which can further excite our astonishment after a consideration of the first great error in the use of this plant, it cannot but be a source of wonder-

ment to the uninitiated to learn that many resort to this most degrading custom through the idea that it is a **MANLY** habit—that sickening and defiling one's self and poisoning the surrounding atmosphere, to the injury of our neighbors, by means of sundry successive puffs or ejections of this narcotic, is a manly habit. By this misguiding reason hundreds of healthy youth have been induced against their better judgment to undergo the tediously sickening initiatory process, and waking from the deluding dream of superior manhood, find themselves quite as low in the scale of existence, weighed down by a vice troublesome to themselves and afflictive to society around them. But listen to the tale of one of these desirers of a precocious manhood.

A gentleman relates that at the early age of fourteen, under the impression that it was a manly habit, he commenced chewing tobacco, and a long and painful course of training was required before the stomach could be brought to retain it. At length the natural aversion of this organ to the poison was so overcome that an exceedingly large quantity might be taken without producing nausea. For several years the patient continued its uninterrupted use, swallowing all the secretions of the mouth saturated with this baneful narcotic, without experiencing much disturbance of health. At length he began to be harassed with heart-burn, attended with copious eructations of an exceedingly acid fluid, together with other indications of dyspepsia.

A watery stomach was suspected, and smoking was at once recommended in addition to chewing to

alleviate the accumulation of water in the stomach and to assist digestion. Smoking was accordingly practised after every meal, with little alleviation of the difficulty. The patient, however, being determined to be benefitted by its use, resorted to it more frequently, smoking not only after eating, but several times between meals. Yet to his great surprise, his troublesome symptoms were gradually augmented, notwithstanding his strenuous adherence to the practice. To the heart-burn and acid eructations soon succeeded nausea, loss of appetite, a gnawing sensation in the stomach when empty, a sense of constriction in the throat, dryness in the mouth and jaws, thickness of the voice, paleness, languor, emaciation, lowness of spirits—in short, all the symptoms which characterize dyspepsia of the worst stamp. He was well-nigh unfitted for any business, and his very existence began to be miserably burdensome. At last, being advised to abandon the use of tobacco in all its forms, and being fully persuaded that he must either relinquish it voluntarily or that death would compel him to do it, he summoned all his resolution to the fearful exigency, and after a long and desperate struggle obtained the victory. All the inconvenience he experienced was a few sleepless nights and an incessant hankering after the accustomed influence of the tobacco. His health returned, and he relinquished the habit forever, under the full conviction that tobacco was the sole cause of his illness, and he firmly resolved never to make further use of it.

Dozens of similar and equally strong instances might be cited, but I spare

your patience, and pass to further consideration of its pernicious effects upon the health. Says Dr. Rush: "The appetite for tobacco is wholly artificial. No person was ever born with a relish for it. Even in those persons who are much attached to it Nature frequently recovers her disrelish for it. It ceases to be agreeable in every *febrile* indisposition." This is so invariably true that a disrelish to it is often a sign of an approaching and a return of the appetite for it a sign of a departing fever. It impairs the appetite. Where it does not produce this effect it prevents the early and complete digestion of the food, and thereby induces distressing and incurable diseases not only of the stomach, but of the whole body. This effect of tobacco is the result of the waste of the saliva in chewing and smoking, or of the tobacco insinuating itself into the stomach when used in chewing or snuffing. It produces many of those diseases which are supposed to be seated in the nerves. A physician in Connecticut has remarked that it has in several instances produced palsy and apoplexy.

In answer to these observations upon the morbid effects of tobacco, it has been said that it possesses many medicinal virtues. Grant it, and the facts which establish its utility in medicine furnish us with additional arguments against the *habitual* use of it. How feeble would be the effects of opium and bark upon the body if they constituted a part of the condiments of our daily food! But while its efficacy as a medicine is admitted, it must not be forgotten that it is clearly the inducing cause of diseases

to those who are in the habit of using it. A dram of ardent spirits suspends for a while a vomiting and tremors of the hands, but who does not know that those complaints are the effects of the intemperate and habitual use of spirituous liquors.

The advocates for tobacco tell us that smoking and snuff relieve that uneasiness which succeeds a plentiful meal. Admit that the stimulous of the tobacco restores the system from the indirect weakness which is induced by intemperance in eating, but the relief which is thus obtained illy compensates for the waste of the saliva in smoking at a time when it is most wanted, or for a mixture of a portion of the tobacco with the aliment in the stomach by means of snuffing. But why should we cure one evil by producing another? Would it not be much better to obviate the necessity of using tobacco by always eating a moderate meal? Says an eminent surgeon: "The opinion that tobacco is necessary to promote digestion is altogether erroneous. If it be capable of soothing the uneasiness of the nerves of the stomach occurring after a meal, that very uneasiness has been caused by some error of the regimen, and may be removed by other means. If tobacco facilitates digestion, how comes it that, after laying aside the habitual use of it, most individuals experience an increase of appetite and of digestive energy and an accumulation of flesh?" It is sometimes urged that men occasionally live to an advanced age who are habitual consumers of this article. True; and so do some men who habitually drink rum, and who occasionally get drunk; and does it thence follow that rum is

harmless or promotes long life? All that either fact proves is that the poisonous influence is longer or more effectually resisted by some constitutions than by others. The man who can live long under the influence of tobacco would live longer without it. Again, it is sometimes urged that tobacco is a preservative from contagious diseases. Facts contradict this assertion. Mr. Howard, the philanthropist, informs us it had no effect in checking the plague. Whatever tends to weaken or depress the powers of the nervous system predisposes it to be operated upon by the causes of these diseases. In Havana in 1833, containing a stationary population of 120,000, cholera carried off in a few weeks, if we may credit the public journals, 16,000; and Dr. Abbot states that the average consumption of cigars was \$10,000 worth per day. Surely this was a fair trial of its anti-contagion powers.

It has been further said that chewing and smoking assist the intellectual operations. So do wine and distilled spirits; but shall we on that account have recourse to those liquors when we wish to stimulate our thinking faculties? Says Dr. Rush, "Tea and coffee are to be preferred when we wish to stimulate the mind." Pope recommends a trotting-horse for the same purpose. But he continues sagely, "I suspect that tobacco is often used rather to *supply* the want of ideas than to *collect* or excite them." The absence of sensation, whether of external impressions upon the body or of reaction of the mind in thought, is always accompanied with misery. Hence the Indians spend whole days and even weeks in smoking, in order

to relieve themselves from the anguish which attends the inactivity and vacuum of their minds. The opinion that the use of tobacco preserves the teeth is supported neither by physiology nor observation. Constantly applied to the interior of the mouth, whether in the form of cud or of smoke, this narcotic must tend to enfeeble the gums and the membrane covering the necks and roots of the teeth, and in this way must rather accelerate than retard their decay. It cuts away the gums, leaving the teeth standing up like stumps in the mouth. We accordingly find that tobacco consumers are not favored with better teeth than others, and on the average they exhibit these organs in a less perfect state of preservation. Sailors make a free use of tobacco, and they have bad teeth. Rush mentions an instance of a man that lost all his teeth by drawing the hot smoke of tobacco into his mouth by means of a short pipe. The grinding surfaces of the teeth are, on the average, more rapidly worn down or absorbed from the chewing or smoking of tobacco for a series of years, being observed in some instances to project but a little way beyond the gums. This is frequently observed among the North American tribes of Indians. The teeth when the jaws are closed, more particularly where the cud has been kept, have been seen to be a tenth and even a sixth of an inch apart. Such are some of the injurious effects of this narcotic on the human system.

We proceed next to mention the influence of the habitual use of tobacco upon morals.

In the practice of smoking there is no small danger. It tends to produce

a huskiness of the mouth, which calls for some liquid. This thirst cannot be allayed by water, for no sedative or even insipid liquor will be relished after the nerves of the mouth and throat, through exposure to the influence of the stimulus of smoke, have become in a half palsied state; hence in order to be tasted, an article of a pungent or stimulating character is resorted to, and these strong drinks, when taken between meals, soon lead to intemperance and drunkenness; hence the kindred habits of smoking and drinking. A writer in one of the American periodicals, speaking of the effect of tobacco in his own case, says that "smoking and chewing produced a continual thirst for stimulating drinks, and this tormenting thirst led me into the habit of drinking ale, porter, brandy, and other kinds of spirit, even to the extent at times of partial intoxication." He adds that after he had subdued his appetite for tobacco he lost all desire for stimulating drinks.

The use of tobacco disposes to idleness, and idleness has been considered as the root of all evil. "An idle brain is the devil's workshop," says the celebrated Bunyan.

The habit of using tobacco is uncleanly. The neglect of cleanliness has ever been allowed to exert an injurious effect upon the morals. Says Rush, "Tobacco when used in smoking is generally offensive to those people who do not use it." To smoke in company under such circumstances is a breach of good manners; now, manners have an influence upon the morals. They may be considered as the outposts of virtue. A habit of offending the senses of friends or

strangers by the use of tobacco, therefore, cannot be indulged with innocence.

It produces a want of respect for our fellow-creatures, and this always disposes to unkind and unjust behavior toward them. Who ever knew a rude man completely or uniformly moral? In the infancy of their society the Methodists forbade the use of tobacco. The prohibition discovered a high and just sense of the self-denial, decency, and universal civility which are required by the gospel. What reception may we suppose would the apostles have met with had they carried into the cities and houses to which they were sent snuff-boxes, pipes, cigars, and bundles of cut or rolls of pigtail tobacco? *These would have furnished solid arguments against their self-denying doctrines. The very idea is absurd.* This habit is uncleanly from the foul odor, the muddy nostril, and darkly smeared lip it confers, and from the encouragement it gives to the habit of spitting, which in our country would be sufficiently common and sufficiently loathsome without it. "True politeness," said a distinguished English scholar, "is kindness kindly expressed." The use of tobacco especially by smoking, is anything but kindness or the kindly expression of it, when it creates an atmosphere which, whether it comes directly from the pipe, the cigar, or deeply imbued clothing, or worse than alligator breath, is absolutely insupportable to many who do not use it, causing depression of strength, dizziness, headache, sickness at the stomach, and sometimes vomiting. By what rule of politeness—nay, on what principle of common justice,

may I poison the atmosphere my neighbor is compelled to breathe, or so load it with an unhealthy and loathsome material as to make him uncomfortable or wretched so long as I am in his company?

What would be said of the physician who, having acquired a strong liking for assafœtida, should allow himself the constant habit of chewing it, to the great annoyance, from his foul breath, of many of his patients, as well as more or less of the healthy individuals of the families who employ him? Or how would a *gentleman* traveler be regarded who should not only keep his breath constantly imbued with this assafœtida, but also insist upon spurning successive mouthfuls of the tincture of it upon the floor of a stage-coach or the cabin of a steamboat? Would he be commended either for his cleanliness, politeness, or kindness? Nay, would he be tolerated in such a violation of the principles of good breeding? I have seen numbers who have been made sick, dizzy, and pale by the breath of a smoker; and I have seen a person vomit from a stage coach from the *influence* of that *indescribable* breath which results from alcoholic liquor and tobacco smoke.

We need not multiply instances to show the deleterious effects of its use on the physical or moral nature, the beastliness of the habit, or its unfitness to answer any of our wants, the rudeness of its general use, and the consequent deadening effects on all the more refined emotions of life. Nature has ordained by irreversible laws that such should be the effect of this plant upon our system; what excuse, therefore, can one present for a continued practice of so loathsome a

habit? The human system furnishes one of the most complicated and delicate machines to the contemplation of which the mind of man was ever called. An equable excitement of all its parts, or, in other words, an equal distribution of the powers of life, constitutes the health and soundness of this wonderful machine, the frame of which is curiously and wonderfully made. If health, then, depends on the even and equable distribution of the powers of life, how imperiously are we forbidden to derange its condition by the application of such stimulants as will destroy the just equilibrium of the system.

We are assured by high authority that our bodies are not our own; let us take heed how we prostrate their energies. How can an advocate of temperance use tobacco? With what consistency can he ask his neighbor to abstain from alcohol, on the ground of its being injurious to body and mind, while he indulges himself in the habitual gratification of an appetite so unnatural and pernicious, holding in some respects so strong an alliance with that produced by an alcoholic beverage. Singular as it may seem, the clergy of the preceding age were accustomed to hold their ministers' meetings with pipe in hand, and thus discuss the interests of their vocation amid the exhilarating fumes of this prime narcotic. But this race of worthies is passed away, and left other and better remembrances behind than those to which in their day custom gave its willing sanction. Let us reverence their virtues, but take heed how under their cover we copy their frailties. To this branch of the subject too much serious thought cannot

be bestowed. In the words of a philanthropist and Christian, How long shall the widow's mite, consecrated under many personal privations to the great object of doing good to mankind, be perverted to sustain a disgustful and hurtful habit by the beneficiary of an education society?

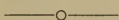
How long are the sacred oracles of God to be polluted with this unhalloed offering and the garments of the priesthood to remain uncleansed from its defilements? How long shall transgressors be called upon to listen, with a spirit of conviction and repentance, to sermons on the great duties of Christian *self-denial* prepared and pronounced under the inspiration of this poison? But some very calmly inquire, *Why* was this plant created if *not for the use* of man? Let such reasoners reflect that there are many other pernicious plants in whose case they might hardly wish to apply the same argument.

For clearly by the same train of reasoning we may compel ourselves to eat the nux-vomica or drink prussic acid. But we are assured that nothing is created in vain, and though horses, cows, sheep, and hogs refuse it, and the moth is chased from our clothes by its odor, let us not arraign the wisdom and economy of nature in its production. Modern travelers have at last discovered that it constitutes the food of a solitary and filthy wild beast, well known in the deserts of Africa, called the rock goat.

To that solitary inhabitant of a Transatlantic desert let all rational beings resign their claim; let them DESERT entirely, at once and forever, a practice which makes man a monument of inconsistency and degrada-

tion, and all fetters broke, rejoice in their freedom to rush to that eminence only attainable by the *rigidly self-denying virtuous*.

W. Thornton Parker, A. M., M. D., in the Sanitarian.



THE VALUE OF THE NUTRITIVE BATH AND OF INUNCTION.

BY GEORGE EDW. HOPKINS, M. D.,

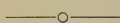
In the more chronic bowel-disorders, in which the child suffers through a period of several weeks, the whole alimentary tract being implicated, death finally takes place from exhaustion—essentially from starvation; for, no matter how carefully nursed and fed, the nourishment is not appropriated by the system. The blandest food acts rather as an irritant to the inflamed surfaces. The stomach itself, however, if there be no vomiting, is probably still capable of absorbing such material as requires no bowel-digestion. Here the most appropriate aliment is the whey of milk, and the white of egg thoroughly beaten with water to considerable thinness, and lightly salted. These may be given alternately. Milk itself is of doubtful utility in these cases. If not digested, it becomes only a source of irritation.

Gentle friction of the abdomen with some warm, bland oil is extremely useful. The absorbents of the skin are exceedingly active during such wasting diseases, and, if the friction be continued very gently for several minutes at different periods of the day, considerable nourishment may be thus obtained. Some oils are more appropriate than others, from being more readily absorbed.

Following each inunction great relief is afforded by warm fomentations of camphor. Fold a light linen tissue (as a large handkerchief) three or four thicknesses, of a size to cover the whole abdomen; dip this in water warmer than the hand, wring out the drip, and, sprinkling the warm surface lightly with spirits of camphor, apply it quickly to the abdomen. Then cover all with dry flannel under the clothing. The warm, camphorized vapor has a most soothing effect.

There are cases of these disorders in children in which the stomach will retain nothing. Even a teaspoonful of cold water is often rejected. Here it is manifestly impossible to do anything in the way of stomach-feeding, and we must resort to other measures. It is in these cases that *the soup bath* becomes a boon beyond all price. It not only relieves the thirst (which may be accomplished also by prolonged immersion in tepid water) but it imparts sufficient nourishment to tide the patient over the critical period. We have known a child's life most evidently saved by this simple means. Let some pieces of mutton or other meat, sufficient for making two or three gallons of good soup, be first simmered for an hour and then boiled sufficiently long to thoroughly soften and extract the juices. In skimming do not take away all the fat. This latter may be skimmed off while cooling and kept warm for inunction later. Pour the soup, when ready, into a little bath-tub, and, when sufficiently cool, immerse the child in it for a period of twenty minutes. It should, of course, have sufficient depth to cover the entire body, the head being supported by the nurse's hand. This

should be repeated twice daily, the bath being rewarmed for a second use, and a fresh soup made if possible, each day. Let the bath be followed by inunction of the entire body with the warm fat that was set aside. After two or three days, if the case improves, the stomach will begin to retain light nourishment. In the meantime, the fomentations of camphor may be continued. Attempts at nourishment by the rectum are apt to be futile in these cases, as may be readily seen.



THE PREVENTION OF BALDNESS.

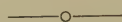
It has been estimated that one-half the adult men of American birth living in our cities are bald-headed. The estimate is not exaggerated, if it is applied to persons above the age of thirty, and it may be rather under the mark. If, now, it be conceded that one-half of our American business and professional men are bald at the present time, it would be interesting to speculate as to the condition of the heads of their descendants some hundreds of years from now. The probabilities point toward a race of hairless Americans, for baldness is extremely liable to be propagated in the male line, and to appear a little earlier in each generation. The American nation is threatened with the catastrophe of a universal alopecia.

It appears to be worth while, therefore, to consider the subject of prevention, since no means have yet been found for the cure. Why are so many men bald before their time?

The answer has almost always been that it is due to the excessive strain and ceaseless mental and physical ac-

tivity to which American methods of business and modes of living conduce. From the visitors' gallery of the Stock Exchange, for example, one views a mob of shining pates belonging, as a rule, to rather young men.

Any reformer, however, who expects to prevent baldness by changing American habits may as well stop at once, for he will surely fail. Now, there may be, perhaps, help in some other quarter. The sons of prematurely bald fathers should bear in mind that if they wish to save their hair it will only be through industrious attention to their scalp. This much-neglected surface should be thoroughly cleansed at certain intervals. It should be carefully and regularly examined, and if it be unhealthy, dry and scurvy, the proper applications should be made to it. The wearing of unventilated hats is one of the greatest sources of failure of nutrition of the hair, and these must be avoided. The beard never falls out, because it gets plenty of sunlight and air. These are what the hair of the scalp needs also. Women are less bald than men, because, for one reason, their scalps are better ventilated. In fine, civilization has made the hair-producing organs of the scalp delicate and feeble. They have to be nursed and cared for, or they atrophy and disappear. Young Americans who do not wish to lose their hair before they are forty must begin to look after their scalps before they are twenty.



What avail the largest gifts of Heaven, When drooping health and spirits go amiss?

MOTHERS' METHODS.

NO II.

BY E. R. SHIPP, M. D.

Mothers' methods in feeding and otherwise caring for their little ones has very much to do with their good health and longevity. Not only the character of the food and the manner of its exhibition, but the clothing, care of the skin, the air inhaled, and the facilities for undisturbed sleep. The clothing should be adapted to the season and climate, and always as light in texture as is conducive to the proper warmth of the body. The under clothing should at all seasons of the year be made of soft, fleecy flannel; the other, outer garments, can be varied according to the requirements of the climate, temperature, and season. All the weight of the clothing should be suspended from the shoulders. Skirts should be made with straps to prevent the otherwise unavoidable slipping down and dragging upon the lower part of the body. The clothing of children should be frequently changed, on account of the more active nutritive processes at this age and the resulting increase of waste products thrown off from the body.

In the morning all the clothing the child has worn through the night should be removed and hung up in a convenient place to air, so as to be ready for the following evening. Fresh clothing should be put on and worn through the day, and every thing taken off at night, hung up on a line for that purpose, well aired and gotten ready for the next morning. Whenever soiled or the least unclean, pure, clean articles should be substituted—thus we find the child having its clothing changed twice every day

without increasing the mother's burdens in the least, and even the laundress will have no more labor than if the little one had worn the same clothing all day and all night without even removing a pin. Just imagine how we, their mothers, would feel were we to sleep in the same clothing in which we had been working and perspiring through the day! How nice it is at night to loosen all the clothing, subject the entire body to an energetic process of friction with the hand, or, what is better, take a tepid sponge bath, rub with a Turkish towel till the skin is aglow, put on clean night clothes and recline upon a sweet, clean bed. The young child, and even the smaller infant, enjoy these luxuries just the same as the older ones, though they are unable to say, "Mamma, I am tired of this burden of clothes, unfasten them, please; rub my back, and let me be untrammelled and unconfined by strap or swaddling clothes; extend my weary little body upon a quiet couch all to myself—and, mamma dear, without your arm for a pillow."

A wise hygienist has said: "In order to secure perfect rest, every man, woman and child should have a separate bed." How often are the delicate slumbers of the young babe disturbed by the movements of the over-tired and nervous mother, the child in a measure partakes of her nervousness and perhaps will fret and nurse the remainder of the night, with a morning result of gastric troubles for the child, with prostration and nervous headache for the mother. How much better for both for each to sleep alone, securing the much-needed rest and repose.

I know a wise mother who gets the little one ready for bed early—at five o'clock in winter and seven in summer, always having the body made clean by a soothing sponge bath. Seeing that its evening meal has been ample she places it in bed *awake*, and perhaps by a sweet gentle lullaby—or perchance by securing perfect quietude the wearied cherub is lulled to rest. If at any time during the night restlessness is manifested, the ever thoughtful mother with subdued and quiet touch, turns the little form upon the other side, smoothing all wrinkles from the bedclothing, and turning the pillow to secure a nice cool place for the baby's head—it may be supplies a little more warmth to the feet—and very soon all is calm again and nothing more is heard till the morning dawns. This is the method adopted by *one* mother to secure "nature's sweet restorer, balmy sleep" for her babies. But how do thousands of others, more thoughtless if not more ignorant than she, manage their darlings. The baby never goes to sleep nor to bed at the same hour twice in a week, its bedtime is any time between six and twelve o'clock, according to the supposed convenience of the mother. For this error in management various reasons might be assigned, but what is most palpable is the want of a realization—on the part of the mother—the very great necessity for regularity of habits. In many instances the baby is kept up till a late hour from various causes, it may be the mother has some work she fancies of more importance—or she may be going out for the evening—or she may have company and of course the baby or precocious child must be shown off to

advantage. The child is excited by the unusual state of things, keeps awake till a late hour; the over-wrought brain becomes irritated, so that it is almost impossible to get the child composed sufficiently to sleep at all. The mother is tired too, and thinks the quickest way out of the dilemma is to get into bed as soon as possible. So a hurried preparation is made—perhaps only a few articles of clothing removed, no soothing bath—not even friction of the skin, nor the loosening of the bands about the waist, but into bed *with the mother* it goes, its wearied brain resting upon the heated arm of the mother, and its olfactories pressed closely upon the excreting surface of the mother's breast, where it can quaff the ever-ready supply at will. Is there any need of commenting on the superiority of the one over the other method?

—O—

A PECULIAR EFFECT OF TOBACCO SMOKE.—Dr. Batten states that a man came into his office one evening to be examined for life insurance, and, as the writer was smoking, asked him to desist, saying that otherwise he would not hold himself responsible for the consequences. He stated that the smoke first caused an intense pain over both eyes, causing him to knit his brows; then he became, as he termed it, "cranky," and would fight with his best friend. After this cranky condition lasted for a time, he became sick at the stomach, and would throw up the contents of his stomach, after which he would have to lie down. He further stated that his mother had the same idiosyncrasy with regard to tobacco smoke, and he believed he inherited it; his father was a smoker.

Salt Lake Sanitarian

A MONTHLY JOURNAL OF MEDICINE AND SURGERY,

Devoted to the prevention and cure of diseases and injuries, and the promulgation of the laws of health and life.

DRS. SHIPP, EDITORS.

SALT LAKE CITY, JULY, 1888.

EDITORIAL.

A PERNICIOUS HABIT.

We present to our readers in this number a very interesting dissertation upon the use of tobacco, written fifty years ago. The soundness of the principles enumerated is established by a half century's experience. Within the last few years there has developed a most pernicious method of using tobacco far more injurious than the old-fashioned pipe with the long stem—this new departure is cigarette smoking. The use of tobacco in this form is attended sometimes with fatal results. I make the following extract from the *Medical Record*:

“The number of boys, in the cities especially, who begin to smoke cigarettes at the age of ten and eleven years is enormous. In most cases the habit is not indulged in excessively, and no serious harm is done, though growing boys cannot take nicotine without suffering from it to some extent. In not a few cases chronic disorders of the nervous system occur. The report comes from Philadelphia of a boy, eleven years of age, who died from tobacco-narcosis. He had been smoking half a dozen or more cigarettes daily for ten months.”

There could be no more salutary law than one forbidding the sale of cigarettes to minors.

The use of tobacco is especially injurious for the young—it interferes with their growth and development by the bad effects it produces upon the nutritive processes.

On the subject of chronic poisoning by tobacco, Favargar in Vienna gives us some most excellent suggestions, which I find in the *Record*.

“The symptoms of chronic nicotism do not generally manifest themselves till after the usage of strong tobacco for ten years or more, and ordinarily follow the free smoking of Havana cigars. As for the manner of smoking, there are four types of smokers: (1) Those who swallow the smoke; in these cases the nicotine acts, probably, directly on the stomach; (2) those who only breathe in and breathe out the smoke: here the detrimental action remains limited to the pharynx and the larynx; (3) some smokers keep their cigar constantly between their lips, and are in the habit of swallowing a certain quantity of nicotine mingled with their saliva; (4) there are other smokers who use cigar-holders that are soon fouled with nicotine, and are never properly cleaned. Chronic poisoning by nicotine manifests itself generally by disturbances of the circulation and digestion. One of the most frequent symptoms is palpitation, then next in the order of frequency is cardiac asthma, and still more rarely occur attacks of angina pectoris. Physical examination of the heart gives sometimes negative results, and sometimes reveals the existence of chronic myocarditis, or of fatty degen-

eration of the heart. Among the digestive derangements are noted: loss of appetite, pain in the epigastric regions, diarrhoea, or constipation. Among the symptoms pointing to disorder of the nervous system are insomnia and attacks of syncope. Favarger reported a remarkable case of fatty degeneration of the heart in a man, aged sixty, who had been for many years an inveterate smoker of strong Havanas. Several weeks before his death he was attacked, after a meal, with violent palpitation, and a paroxysm of dyspnoea came on the next day. Till the time of his death the temperature remained low (94° – 97° F?), the pulse very frequent and small (140 to 160), and the pupils much contracted. At the autopsy were found pleuritic exudations, dilatation, with fatty degeneration of the heart, and an ulcer of the stomach, which had determined a mortal hemorrhage. In this case, said the reporter, the fatty degeneration of the heart could not be attributed to alcoholism, or any other known cause, except that which was the most obvious, namely, the excessive use of tobacco. This view was confirmed by the abnormal frequency of the pulse, by the great fall in the bodily temperature, and by the contraction of the pupils. Although no arterial atheroma was noted, there existed, nevertheless, in this case a functional stenosis (?) of the coronary arteries, equally attributable to nicotine, and to this constriction of the nutrient arteries of the heart, causing ischæmia, was due, presumably, the fatty degeneration of that organ. As for the ulcer of the stomach, it may have been directly engendered by the topical action of

saliva impregnated with nicotine, or it may have been the result of circulatory disturbances, according to the process indicated by Rokitsansky and Virchow. As for the treatment of chronic nicotine, Favarger recommends as prophylactic means: (1) Never to smoke when the stomach is empty, but always after a meal. In this way the number of cigars smoked will be limited, the nicotine will be made to act on a full stomach, loss of appetite will be prevented, and the antidotal ("anti-nicotine") action of the tannin contained in the wine, tea, or coffee of the meal will be obtained. Tannin, according to Favarger, is the best antidote to nicotine. (2) Smokers should avoid holding their cigars long in their mouths. (3) Cigar-holders should be frequently renewed, and regularly cleaned. Smokers should smoke the milder cigars occasionally, instead of always choosing the strongest. According to Erlenmeyer (Stillé, "Therapeutics," vol. II., p. 320) smoking cigars is vastly more injurious than smoking a pipe, because the preparation of tobacco for the latter purpose destroys as much as two-thirds of its nicotia, while the former loses but little of its active principle in its manufacture. More than twenty-five years ago, Dr. B. W. Richardson presented the following conclusions as the result of an exhaustive study of the effects of tobacco-smoking: (1) The effects produced are very transitory. (2) The evils of smoking are functional in their character, and statements that it causes insanity, epilepsy, chorea, apoplexy, organic disease of the heart, cancer, and consumption are devoid of fact. (3) The habit of smoking is deleterious to the young. (4) To-

bacco is a luxury, but probably the least hurtful of the luxuries. Stille¹, in commenting on these propositions, remarks that there are several diseases not enumerated by Dr. Richardson which excessive smoking unquestionably develops. One of these is amaurosis, many cases of which have been traced to tobacco-smoking by no less competent authorities than Mackenzie and Sichel. 'The former, many years ago, hinted his suspicion that it is a frequent cause of amaurosis, and the latter is now of opinion that there are few persons who have smoked during a long period more than five drachms of tobacco per diem, without having their vision, and frequently their memory, impaired.' Farnsworth, in the *American Medical Times* (October, 1862), cites a case of impaired vision from the same cause, with general anæsthesia. 'In spite of a well-directed treatment the disease grew worse, until the discovery was made that the patient was in the habit of smoking a pipe almost continually, with the coarsest kind of tobacco. On relinquishing this practice he gradually recovered.'"

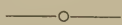
If we are unable to influence the "old-timer," we should make an effort to save the young from the "Tobacco habit."

THE TREATMENT OF BILLIOUSNESS.

The treatment of biliousness is prophylactic, alimentary, and medicinal. Prophylaxis is concerned with avoidance of all the known causes, whether of a toxic, malarial, or alimentary character. A plain diet, of bread, milk, oatmeal, vegetables, and fruits, with lean meat or fresh fish in modera-

tion, and abstinence from alcoholic stimulants, seems to be the ideal fare for the biliously predisposed. This kind of diet is especially applicable for hot weather, when albuminoids are apt to clog the portal system, and pastries are an abomination, and when a broiled schrode, a little chicken or mutton broth, with bread and stewed fruit, will make a more healthful meal than the more sumptuous fare of a modern fashionable dining-saloon. Exercise in the open air is of recognized utility in promoting oxidation and elimination, enhancing the digestive and assimilative processes, and lightening the burdens of the liver. Moreover, exercise (whether by rowing, horseback-riding, gardening, walking) hinders absorption of bile by the hepatic venous radicals, and promotes the passage of that fluid into the duodenum, through the increased compression exerted on the liver by the diaphragm and abdominal muscles; this is in accordance with a recognized physiological law. The victim of an acute bilious attack will generally get righted in a few days by, first abstinence from all food, then a diet of porridge and milk, or skimmed milk alone, and a very gradual return to solid food, which for several days should be restricted to toast, a little lean meat, or broiled fish, with some succulent vegetables or ripe fruit. As for medicines, saline aperients, such as sulphate of soda, Epsom or Rochelle salts in full doses in the morning, or the now fashionable tumblerful of Hunyadi Janos will generally suffice to clear the *primæviæ*; the latter has especially a reputation for evacuating bile. The striking relief obtained by free bilious evacuations has often

been remarked, and the veteran transgressor resorts to his blue pill or podophyllin with every recurrence of his malady. Of late enonymin has come much into use as a cholagogue. Harley recommends to persons who seem to have a more than usual tendency to biliousness, traceable to sluggish biliary secretion, and where there seems also to be defective nerve action, small doses of nux-vomica or strychnia after their meals. This may be combined with belladonna and aloes, as in the aloin, strychnia, and belladonna pill. The bilious person is generally constipated, hence such a pill has a special utility. Fothergill's pill of ipecac, capsicum, and pil. aloes et myrrh, has done good service in such cases. Nitro-muriatic acid and taraxacum have a reputation which is probably not altogether built on imaginary results. But bilious dyspeptics, while they should be attentive to the functions of eliminations (and doubtless the ancient predilection for purgatives has been justified by modern scientific research, which finds in intestinal septicæmias and alkaloids of putrefaction many of the evils formerly attributed to peccant humors and atrabiliary disorders), should aim especially to be good hygienists and learn to live right; but this is counsel which everybody gives and nobody takes.—*Record.*



WHAT CAN WE CURE?

When one takes up a new work on the practice of medicine and contrasts it with one written a century ago, he finds far more diagnosis and pathology, but less therapeutics. A more accurate account of the part played by

drugs in the cure of disease has entombed a good many specifics. Whole classes of remedies are left out of modern therapeutics.

Others, while retaining a feeble existence, are destined to go sooner or later.

Lithontriptics to dissolve stone in the bladder are defunct; emmenagogues are in a decline; expectorants show evident weakness.

That any drug is possessed of power, *per se*, to produce the menstrual flow, has ceased to be believed by the profession.

Dr. Meigs called emmenagogues "hen-persuaders." A patented hen's nest was so constructed that the eggs would drop out of the nest as soon as layed, whereupon the hen would lay again. There was no end to the number of eggs that could be produced in this way.

Expectorants were believed to possess some inherent power of hunting for the lungs, and loosening adhesive mucus from the bronchial tubes. Some doctors still believe that squills, ipecac, and senega possess some power to get phlegm out of the lungs.

These so-called expectorants once had much reputation in the treatment of pneumonia.

They were supposed in some unknown way to get the exudation loosened and "spit up."

This is now a vain hope. There is not the slightest evidence that any known drug has any such special affinity for the lungs.

Some men are always in a fog in the treatment of pneumonia.

Most of the remedies in use for this malady have harmed the patient more than the disease.

"Like blind men fighting in the dark,
They never fail to miss the mark ;
When death doth fail, the doctor's sure
To meekly stand and claim the cure."

The better class of physicians are not expecting honors from prescriptions. Flint was no druggier. Holmes is a medical sceptic. Bennett, before whom the dosers and druggers quail, says there are but four drugs known whose effects are unquestionably beneficial in particular diseases. They are : 1, Quinine in ague ; 2, pitch ointment in psoriasis ; 3, male shield fern in tape-worm ; 4, sulphur ointment in scabies.

In the days of our ignorance we hoped to shorten the course of measles, scarlet fever, small-pox, and typhoid fever. To-day we count on our fingers to measure the day of crisis—of typical endings. Acute ophthalmia, superficial erysipelas, and sporadic flux are found to be self-limited. Nitrate of silver, sugar of lead, sulphate of iron, iodine, et cetera, have all lost their reputation for limiting the spread. Whatever is used, the spreading ends in three or four days. Acute ophthalmia ordinarily ends in fourteen days, doctored or undoctored. Collyriums have made seas of briny tears, but performed no cures.

The land rings with anthems sung to the doctors who have cured sporadic flux. The eclectic and the homœopath have divided honors with the regular physicians in the cures. Most of the patients go abruptly into convalescence on the fourth day. Even that endemic disease, gonorrhœa, which every ignorant and dishonest doctor will promise to cure in five days, Trousseau declares to be the despair of the physician.

Diday says syphilis is cured by the grace of God.

When we cut out the confessedly incurable and the self-limited complaints, we have not got much to work on. The specialist claims what is left. Drugs intelligently used, I doubt not, have often greatly assisted nature in her extremity.

Sulphate of quinine, while it is still prescribed by the routinist in typhoid fever, is eschewed by the more thoughtful men in the profession. Given day after day, to reduce a temperature which comes back day after day until the disease has run its course, was indeed very silly practice, to say nothing of its deleterious effect on the digestive and nervous systems.

"The United States Dispensatory" contains eighteen hundred closely written pages, giving the virtues of innumerable drugs. Yet alcohol and opium are of more value than all the others combined. Opium has assuaged more pain, soothed more sorrows, and saved more lives than all the remedies in the materia medica. Good doctors father no prescriptions, no specifics.

While Ringer is quoted as a believer in specific medication, while his book goes through semi-annual editions, his most vaunted remedies are for functional disorders. A good physician's highest hopes are realized when he has by opium assuaged pain, and by alcohol kept the heart wagging in the decline of some violent malady.

If we have been nature's adjunct in her extremity, we have filled our mission.

Alcohol, though slandered and vilified by fanatics, has saved millions from an untimely end. There seems

to be some inexplicable affinity between alcohol and the human system. The higher the civilization the more apparent the affinity. Noah, who built the mammoth ship that saved the world, felt its soothing influence; while Solomon, the wisest of mankind, like Mohammed, interdicting wine, fell the victim of a more ravishing vice.

Noah's first thought, when his boat landed, was wine. He planted his vineyard before his corn or tobacco. The Bible says, "Give wine to him who is of sad heart, and strong drink to him who is ready to perish." But as this is not a dissertation on prohibition, æsthetics, psychology or divinity, I will not pursue this thought further.

A doctor's faith in physic is the measure of his intellect. It is always in inverse proportion. Confidence in God and nature points to large comprehension.

When we look upon the countless millions who have lived their allotted time undoctored and undrugged, our faith in physic weakens. With all our knowledge, all our skill, we give out at threescore and ten. The divine appointment of death robs us of Utopian hope in drugs. Impossibility of proof of demonstration is at the bottom of endless controversy in medicine and divinity. We all agree about the multiplication table. Truth is mightier than lore—than authority.

The strife between nature and art in the cure of disease has resulted in a victory for the former. Nature, unadvertised, has won a thousand trophies to one of art, whose seas of ink have been drained to prove one cure.—*G. M. Dewey, M. D., in Medical Record.*

MILK AND MEAT.

A precept of the Mosaic law prohibited the use of milk and meat at the same meal. At least this seems to have been the idea held by the Talmudists, and now taught and practised by orthodox Jews and Jewish rabbis. There has lately been quite a little discussion of the question in New York, by rabbis, chemists, doctors, and journalists, without getting at the root of the matter. There is doubtless, a physiological reason for the prohibition. Meat does not generate germs in milk, as one chemist asserted, but a mixture of meat and milk undergoes decay with great readiness; and when placed in a stomach not prompt in its digestive processes, is pretty certain to undergo septic changes. This is chiefly because milk is digested but slightly in the stomach, being more readily and perfectly digested by the pancreatic juice. Meat is chiefly digested in the stomach. The milk is retained in the stomach during the three to five hours required for the digestion of the meat.

When taken by itself, milk leaves the stomach in about two hours, as shown by Dr. Beaumont's experiments upon St. Martin. The unnatural delay in the stomach causes the milk to ferment, and the meat itself is led to undergo decomposition also. This is doubtless the true explanation of the experience which leads many persons to suppose that they cannot use milk. They say it makes them "bilious," which means simply that they have indigestion when they use milk.

Milk agrees perfectly with fruits and grains, less satisfactorily with vegetables. We have met hundreds of persons who thought they could not

use milk, but who were able to use it with impunity as soon as they learned and avoided the use of milk and meat at the same meal. Milk is a natural food for man. Flesh is an unnatural diet, for which an artificial appetite has been created by indulgence.—*Selected.*

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COFFEEISM.

For years physicians have recognized a distinct disease resulting from the use of tea, which has been termed teaism or tea-drinkers disorder. A French medical journal recently published a contribution from M. Guelliot, an eminent physician of Reims, in which a distinct form of disease is attributed to the use of coffee, and receives the name of *coffeeism*. There is now left no room for doubt on the part of any one, that coffee as well as tea is a harmful and pernicious beverage. The use of either of these substances is as unnecessary as the use of alcoholic drinks or tobacco.

Chemists have known for a generation, at least, that both coffee and tea contain poisons, which are deadly even in small doses. Their effects upon the human system are only less harmful than those of alcohol and tobacco because they are used in a very diluted form. We do not hesitate to venture the assertion that the health would suffer less from the use of half a pint of light wine daily than from the use of tea and coffee as ordinarily used. A cup of strong tea contains more poison, and does more mischief to the vital economy, than an equal quantity of beer.

Science speaks just as positively respecting the harmful character of tea and coffee as in relation to alcohol

and tobacco. Consistency requires, for a thorough-going temperance reform, the abandonment of all these narcotic and stimulant poisons.—*Ex.*

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TYPHOID FEVER FROM SEWER GAS.

An outbreak of typhoid fever recently occurred at the Industrial School located at Adrian, Mich., in which twenty-one girls and one teacher suffered from the disease, which was of a very severe type. In five cases the disease was fatal. An investigation showed that through improper construction of the sewerage system, sewer gas was allowed to escape into the basements, a portion of which is in each building used as a laundry. Each of several buildings was found to be contaminated with sewer gas. The effect of the sewer gas was intensified by imperfect construction and improper management of the ventilating system. Instead of taking air from out-doors, the steam coils were supplied with air from the basements, which was contaminated with gases from the sewer and from other sources.

The sewers were disinfected by a strong solution of corrosive sublimate, and ventilating ducts opened. As a result, the epidemic, which was rapidly increasing in virulence, was stayed almost at once. In less than a week new cases ceased to appear. Typhoid fever usually results from the use of contaminated water. This case, however, seems to confirm the teachings of an eminent German authority, that the disease may be communicated through the medium of the air.—*Ex.*

BREWERY STOMACHS.

A man who habitually suffers from "sour stomach," a form of dyspepsia, may be a temperance man by profession, and a total abstainer from alcoholic drinks; but he is nevertheless imbibing alcohol. The writer has many times noticed in this class of dyspeptics the flushed face, bloodshot eyes, quickened pulse, and many other symptoms which accompany mild intoxication. The breath also often has a taint of alcohol upon it.

That alcohol is formed during fermentation in the stomach, as well as elsewhere, there can be no doubt. As is well known, it is the function of the saliva to convert starch into sugar. The starch constitutes about half the weight of farinaceous foods. Besides, more or less sugar is taken with the food. An ounce of sugar, when fermented, produces nearly two-thirds of an ounce of pure alcohol, or the equivalent of more than one ounce of whisky. Probably not less than four ounces of starch and sugar are taken at an ordinary meal. Suppose, then, that in a case of dyspepsia the food remains in the alimentary canal long enough for one-half the starch and sugar taken at one meal to be converted into alcohol, we have as a result, the equivalent of not less than two ounces of whisky. Is it any wonder then that the dyspeptic is flushed and giddy or excited, and sometimes complains of a feeling of partial intoxication a few hours after eating!

It may be a new idea that a man may get drunk on a bad dinner, but the fact remains that a sour stomach is actively engaged in the production of alcohol, becoming a sort of brewing,

in fact. Such a stomach needs a good disinfection, and its possessor can hardly be called a total abstainer until he has so reformed his diet that he has put a stop to the manufacture of alcohol in his own alimentary canal.

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CHOLERA INFANTUM.

BY DR. MAGGIE C. SHIPP.

Now that the heated term is fairly upon us we may look for increased sickness among the children. Of the prominent diseases that attack childhood during the hot weather, cholera infantum or summer complaint, as it is commonly called, is to be particularly dreaded. The mortality from this malady stands high in the list of the dreaded diseases of childhood.

Miegs and Pepper, medical writers of prominence on the diseases of childhood, define or describe cholera infantum as follows: "It is characterized by the occurrence, almost solely during the summer months, in young and generally teething children who have been previously healthy or the subjects for a longer or shorter time of simple or inflammatory diarrhœa, of sudden muscular debility, occasional nausea, spasmodic griping pains in the bowels, depression of the functions of respiration, and an appearance of faintness, copious purging of their serous fluid or of large, watery and fetid evacuations, succeeded by more or less obstinate vomiting, coldness and dampness of a part or of the whole surface of the body."

There is not much likelihood that this wasting disease will not be recognized in whatever shape it may appear. However, in this article we shall group together all the various

forms, as "summer complaint," diarrhœa, etc., that have so much in common. The treatment and the manner of handling them all are very similar. If we hope to bring the affliction to a successful termination, we must ascertain the causes and remove them.

One of the prominent factors operating to derange the digestion of children and set up intestinal troubles, is the heat of summer, together with the bad hygienic surroundings. It is observed that when the summers are not attended by such excessive heat this form of disease is not so prevalent and the mortality list is perceptibly lowered—while on the other hand, if we have a long-continued and severely hot season the death rate is greatly increased, especially is this noticeable among the children who are passing their second summer and are "getting their teeth." Another very prolific source of this ailment under discussion is the diet and manner of feeding young children. Frequently we find there has been great carelessness displayed by giving unsuitable milk to the child—milk in which the early stages of fermentation have set in. We usually find that nursing bottles are used to feed the baby. These bottles, many of them, are arranged so that the milk is drawn through long tubes. I look upon these tubes in nursing bottles as most objectionable. It is with great difficulty that they can be cleaned and kept sweet. It is much better to use the black rubber nipple that can be placed upon any bottle and can be kept clean with but little difficulty.

It often happens that the child is given the breast when the mother is

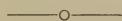
very warm or worried over her household duties and her milk on this account is not in a healthy condition. As small as these considerations might appear to some, yet they are sufficient to set up a disturbance with the digestive track of the little one that might cost it its life. Mothers, see to it that when you "nurse" your children you are not over-tired, exhausted, or that your nervous system is not in a condition of undue excitement, for these things have a very deleterious effect upon the milk.

During the summer when fruit is around the child is apt to get hold of some that is green, unripe or unsound. Nothing will bring on an attack of cholera infantum quicker. The doorway where the child is playing, or the floor it is creeping upon, should be kept free from all such unhealthy things; a little care in this direction will save much sickness. The child may be already suffering from only a mild form of summer complaint, but by taking improper food there is danger of provoking a severe type of the disease which we may find difficult to control. Again, the child may be struggling with the difficulty of "cutting teeth," the nervous system is under a severe strain, so that small matters that at another time the vital forces would easily overcome, under these circumstances prostrate the sufferer with serious disorders of the digestive track.

We come now to speak of the important part of the subject—the treatment. I cannot refrain from again urging upon your attention the value of profolactic consideration. Have a care to hygienic measures. Do not expose your children to the noon-day

heat, nor let them get chilled in the cool of the early morn. The wearing of flannel next to the skin is one of the best regulations to meet the great variation of temperature we have in these mountain regions during the twenty-four hours.

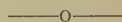
In the treatment of a case of cholera infantum the first thing we undertake is to try and stop the vomiting and purging. Place upon the stomach a mustard plaster or spice poultice, or you will find turpentine stupes have an excellent effect. To give internally subnitrate of bismuth is excellent. Give 5 to 10 grains every two hours, according to age, with one to three drops of laudanum. Sometimes an injection of laudanum and starch is necessary to quiet the bowels. If there be much fever give small doses of quinine three hours apart; antipyrine I like better. Be most careful about the diet. To sustain the patient give a few drops of the best brandy every two hours. If there be nervousness or restlessness, small doses of the bromide of sodium. In the wasting process of a long attack of summer complaint to sustain the strength nothing is better than a liberal use of olive oil. Keep the child thoroughly anointed from head to foot. Wash the body once or twice a day in whisky, or alcohol diluted one half, followed by an inunction of oil. Careful and intelligent nursing gives the surest hope.



POISON FROM NUTMEG.

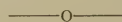
An Australian medical journal gives an account of a case in which a woman

was seriously poisoned by eating half a nutmeg. Her life was saved only by the most vigorous efforts on the part of her physician. Numerous other cases have occurred in which eating a single nutmeg has produced most distressing symptoms of poisoning. The symptoms in the case referred to were coldness, palor, dilated pupils, sighing of respiration, pulse almost imperceptible and so rapid that it could not be counted. Nutmeg, in common with all other condiments, is a poisonous and unwholesome substance.



DANGER IN SOAPS.

Everybody does not know that soaps, especially in hotels, become, not infrequently, a source of disease. About every man in fifty has some sort of contagious skin disease. Soaps and towels in hotels and public institutions are often a means of communicating maladies not by any means easy to eradicate. Better go with dirty hands and face than to run the risk of contracting a distressing or offensive malady.



DIET IN DISEASE OF THE KIDNEYS.

In all forms of kidney diseases, alcoholic liquids, spices, coffee, tea, and salt should be avoided. This statement is made on the authority of the largest and most eminent medical experience. Eggs and meat should be avoided, especially in cases where there is a tendency to dropsy.

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TYPHOID FEVER.

BY THE EDITORS.

There are but few if any of our towns and settlements if they are of any size or age that have not been visited by typhoid fever. The autumn is the part of the year when it is most prevalent.

Great carelessness has been exhibited not to effectively destroy the germ of the disease that escaped from the patient chiefly in the stools which should have been thoroughly disinfected. The failure to do so, has been the means of scattering the poison broadcast, and this infectious element is only awaiting favorable conditions to start what may develop into a serious epidemic.

There is a low weak or typhoid condition that sometimes attends wasting and protracted cases of sickness that is not a case of enteric or typhoid fever and is usually called the "typhoid state." There are certain conditions, symptoms or diagnostic signs that accompany a typical case of this disease that are characteristic, and when recognized enable us to determine the case without doubt.

However all the symptoms of a typical case do not attend invariably cases of typhoid, but one or more of the especial conditions are present and

are so evident as to enable us to form a correct conclusion. Medical writers have given this disease various names as abdominal typhus, entero mesenteric, nervous fever, gastric or enteric. For a long time it was thought to be identical with typhus fever but a better knowledge of the disease proved it to be a distinct complaint.

It is defined to be an acute, self-limited, febrile affection, due to a special disease germ or poison that enters the system. It is characterized by insidious prodromes or forewarnings of a feeling of "all out of sorts." It is quite common for bleeding at the nose to occur, dull headache followed by stupor and delirium. Many have irregular chills, loss of appetite, giddiness, ringing in the ears, and sometimes nausea. Usually there is early diarrhoea, but there is sometimes the contrary. The bowels are constipated and it is not uncommon in domestic practice to give a strong purgative to "work off the cold," which causes a persistent "looseness to set in" that it is difficult to control. There is a peculiar tongue, it is furred, being white in the center and at the end is a triangular tip that is red, which in a few days becomes dry and brown. In some cases there is great prostration early in the attack, while in other instances the patient keeps on his feet

and perhaps at his work until alarming conditions suddenly occur, attended by fatal consequences without much warning. The temperature in this fever has its own peculiar record, gradually ascending about two degrees every evening to fall back one degree the following morning. One of the symptoms of the greatest value is the characteristic eruption that, with the rarest exceptions, attends this disease. At the end of the first week this eruption appears in the form of "rose colored spots" resembling flea bites upon the abdomen and chest sometimes there will only a few, three or four, be seen. They are well defined circular rose colored and are elevated above the skin which may be appreciated by the sense of touch, they disappear upon pressure. They appear in successive crops and exhibit no change until they fade. Each crop will last about five days. The eruption is almost constant. And when there is a relapse the "spots" return. The diarrhoea is an important feature in this trouble—if there is none it is a very favorable indication and the case is apt to be a mild one, but if extensive, sometimes reaching fifteen or twenty stools in the twenty-four hours, the case will be grave. The stools at first are dark but early in the second week become fluid, offensive, having ochre-yellow color or the "pea soup" characteristics, and may be streaked with blood. This indicates extensive and serious ulceration of the bowels.

In grave cases we have very pronounced nervous symptoms, headache, severe dullness soon comes passing into drowsiness and stupor, low muttering delirium. Such are the conditions

of the patient as to cause great alarm to the friends.

The causes that produce typhoid fever are classed as predisposing and exciting. The predisposing are age, young adults, and the season. A hot dry autumn, is always followed by more or less "sickness of this sort."

The exciting cause is a special typhoid germ which results from the decomposition of typhoid excreta.

Stools of a typhoid patient are carelessly thrown out (not disinfected). The "germ" finds its way even in long distances to the well that supplies the drinking water by which means fearful epidemics have started "laying hundreds low" in its deathly trail.

Pools of water become infected, from which cows drink the poisonous element which finds its way into the milk. This milk is unsuspectingly used by the families, perhaps purchased from a dairyman and this typhoid is sown far and wide. Until the people comprehend this fact sufficiently to abandon their indifference and learn the value of "disinfection" you may expect typhoid fever.

We have the following pathological conditions in a severe attack of typhoid fever. There are certain glands in the intestines called "peyers patches," and solitary glands that inflame and ulcerate. One of the results that sometimes follow is that these ulcers "eat through the bowel"—"perforation"—which is attended with fatal consequences. Understanding this it can be readily seen how important the diet becomes in this malady. An immense number of fatal endings have attended this fever because the patient was improperly fed. Even after convalescence has set in, the indulgence

of the appetite has cost life. We cannot dwell too impressively upon this point.

There are other pathological changes, as the mesenteric glands enlarge and soften but seldom ulcerate. The spleen enlarges and softens, sometimes reaching three times its natural size. In fact, the entire tissues of the body become degenerated; the whole system as it were becomes involved and deeply sympathizes in the ravages of the disease, great emaciation follows, and when it terminates favorably the patient passes into a slow tedious convalescence.

We come now to speak of the treatment. Few indeed are the diseases of which we are enabled to say that we have a specific for the treatment upon which we can depend.

Many diseases have their typical courses to run and we exert our best endeavors to prevent any interference, and if any complication should arise it must receive our early and vigorous attention. Especially is this true of the fever under investigation. So immense, so exhaustive is the drain upon the vital resources from which there is no way of escape, to prepare for the struggle, to fortify against the invasion, and to battle the attack are our all absorbing thoughts. Our best weapons are rest, careful feeding, stimulation at the proper time when the energies are flagging and a most exact hygienic regimen, and thus we keep alive the vital spark of the sinking patient until he has time to reach the shore of convalescence.

The nurse who is attending the patient should give strictest attention to all hygienic regulations. The patient should be in a large well ventila-

ted room and if possible it should be a room where the renovating rays of sunshine could permeate and the air of the apartment should be constantly changed by proper ventilation without placing the patient in a draught. The contagion is in the stools; they should be well disinfected, carbolic acid one part and water forty parts put in the vessels. The patient and bedding should be kept scrupulously clean. Quiet is essential, one of the difficult things in common life is avoid the visiting and the discussing the patient by anxious friends when perhaps his life depends upon absolute quiet and undisturbed rest, no noises to attract his attention. When the patient gets "very low" he should not be allowed to sleep over three hours at one time without taking nourishment. Feed regularly day and night and especially in the early morning hours. The kind of food is an important item, it should be easily assimilated and of a nutritious character. Avoid solids on account of the intestinal lesion.

Milk is the pre-eminent diet. Beef and mutton broth, rice boiled and strained, oat meal gruel might be given if the diarrhoea does not forbid. Let the food be administered at stated intervals and with regularity.

Do not let the patient lie too long in one position but change from one side to the other occasionally.

There are various courses of medical treatment that have their advocates in the profession. Calomel is a favorite in the German schools, and cold baths to lower the temperature, but it is difficult to utilize the bath in domestic life.

Prof. Da Costa of the Philadelphia school recommends highly the mineral

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acids. Hydrochloric acid ten drops three times a day. Prof. Bartholow thinks one drop of carbolic acid with two drops of tincture of iodine given every two hours has the best influence upon the disease. If the temperature is very high (that is the fever) sponge off the patient with cold water. Under such circumstances ice cold applications are most excellent.

If the bowels are swollen or tympanitic, apply turpentine stupes, give internally ten drops of turpentine. For headache, cold to the head, mustard on the neck, hot foot baths—morphia in some cases. When there is restlessness give five to ten grains of bromide of sodium.

The diarrhoea if it does not exceed three stools in the twenty-four hours should not be disturbed. But when it becomes excessive, the following may be used: Subtrah of bismuth twenty grains, carbolic acid one drop, paragoric ten to fifteen drops. Take this dose every three or four hours until there is a change.

If there is constipation, do not disturb the bowels until two or three days has elapsed, then give a dram of castor oil morning and night until there is a movement. Or an excellent method would be to give the oil by injection.

If complications arise, as pneumonia, they are treated the same as if it was alone. For the high fever the chief medication has been quinine in large doses, ten to twenty grains as the case demanded; but recently antipyrin is meeting with great favor with the profession, it is given instead of quinine in ten to fifteen grain doses.

The nurse should not fail to wash the body all over, daily, with whisky

or alcohol, and anoint the patient from head to foot with olive oil; this will assist to keep up the strength and will exert a splendid influence on the course of the fever.

After convalescence has been established, it frequently happens that a relapse takes place. Prof. J. M. Da Costa recently in a clinical lecture delivered at the Pennsylvania hospital in Philadelphia, gave some very interesting thoughts upon this subject as reported in the College and Clinical record as follows:

"I shall, in concluding this lecture, show you a case which, although not rare, is instructive. It is a case of marked relapse in typhoid fever. November 29th, the temperature of this patient was 99.5° . December 1st, it was, in the morning, sub-normal, 97.6° , in the evening, 99° . The temperature continued normal, sometimes becoming sub-normal, until December 8th—nine days ago—when the temperature went up from 98° in the morning to 100° in the evening. The next morning it was 99° , that evening, 101° . It continued to gradually rise until it reached 103° .

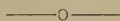
The relapse made its appearance without apparent cause. The tongue became dry and the spots on the abdomen reappeared. There was no diarrhoea, and even during the original attack the diarrhoea had not been marked. The first attack had been complicated by pneumonia, which, however, has not returned.

The temperature this morning is 100.4° . The tongue is red, but no longer dry; the spots can still be seen. Convalescence will probably set in within a few days. As a rule, relapse

in typhoid fever ends in recovery, and is of a comparatively short duration. If the average duration of an original attack of typhoid fever be taken at twenty-four days, the relapse will continue not more than twelve days, that is to say, one-half the length of the original seizure.

A relapse of typhoid fever requires the same care as the first attack. All the symptoms of the former sickness may be reproduced, even to intestinal hemorrhage, and under rare circumstances, perforation. There are fresh morbid processes in the intestine, although they are not apt to be so deep-seated.

The treatment in the present case has consisted in the use of dilute nitromuriatic acid, twenty drops every four hours. When the tongue was dry, he received turpentine, which can now be stopped. He has also received whisky. He is allowed three pints of milk and one pint of beef-tea in the twenty-four hours. This is the average quantity of food which we allow our cases of typhoid fever. This man was also given cocaine, in doses of one-sixth of a grain every fourth hour, on account of cardiac weakness. There is, however, no occasion to continue its use.



QUININE, ITS USE AND ABUSE.

BY DR. BROWN.

Some of our most excellent remedial agents by their misuse or abuse are converted into very harmful affairs. There are perhaps no better established medicines than opium for pain, and quinine for the miasm of malaria. Their remedial properties in these con-

ditions have stood the test of time and universal experience. But as good as they may be, under certain circumstances we are not warranted in an indiscriminate administration of these drugs for every ache, pain or form of sickness that we imagine ourselves afflicted with. Even in the regular profession there is a disposition to "crowd a drug" in almost every case we are called to attend, because in some instances it has served such a good purpose. It appears such a lazy way of doctoring. "If you don't know what to do, give quinine" is not good practice. The tendency to make "universal application" of a remedy that has a good reputation is very pronounced in domestic practice. It is here we find the endless "cure all" in great profusion. In quinine we have a perfect type of a specific. "It will cure the chills." Its action to destroy the poison of malaria is unquestioned. From this fact and reputation its use has extended until we seldom find a medication or a treatment of sickness, no difference what the nature of that sickness may be, that quinine does not form a larger part of the "dosage."

The sulphate of quinine is the article generally used. This is obtained from Peruvian bark. It is a white or colorless substance in very light and silky crystals, and has a most bitter taste. The sweet taste of liquorice destroys the taste of this bitter drug and makes an excellent medium in which to give it.

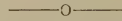
It is well enough to understand what is the effect of medicine we take upon the system. The preparations from the bark, of which quinine is the chief, are known as "astringent

bitters." It acts as a tonic, that is, promotes the appetite, the flow of the gastric juice and as a result the digestive powers are assisted.

The effect of long continued taking of these bitters is to set up a gastric catarrh, when digestion, instead of being promoted by their use, becomes painful and labored. Being astringent in their action upon the intestinal mucous membrane the tendency is to cause constipation. As before intimated, in all malarial attacks quinine is "*par excellence*," and in cases of "high fever" it has been regarded as a useful agent to control or lower the temperature.

But in full medicinal doses as Prof. Bartholomew mentions in his treatise on *Malaria Medica* "as the quinine accumulates in the brain, a sense of fullness in the head, constriction of the forehead, *tinnitus aurium*, more or less giddiness, even decided vertigo may be produced. Dullness of hearing results from considerable doses, and deafness has in rare cases been permanent." The sight or the vision of the eye may be seriously effected. An eminent oculist of New York says he has encountered several cases in which the retina of the eye was seriously and permanently damaged from the use of quinine. A prodigious headache will sometimes follow a dose of quinine. The system may become so saturated, as it were with a drug by its long and continued use, that its virtues, if it had any at the beginning, are lost, and the effects sought to be produced are not realized, unless a resort is had to exceedingly large doses. It is astonishing what doses of opium or arsenic may be taken by the users of these drugs.

The use of strong, powerful drugs in domestic practice when the effects, action or indications are not understood, is decidedly injurious. The only thing to guide them, is the "reputation" medicine may have. Quinine is too powerful in its physiological action, too serious are the results that may follow its administration as a "family medicine." Where quinine is given in doses of 6 to 10 grains if 1-12th to $\frac{1}{8}$ grain of morphia be given with it, some of the bad nervous symptoms may be in part, at least, counteracted.



ERRORS OF NUTRITION.

BY W. I. THAYER, M. D.

Old Dr. Fothergill once said: "What we doctors want is information on the subject of feeding." What many of our medical schools want is, not so much pathology and therapeutics, but a chair devoted to dietetics and prophylactic nutrition. How to feed, what to eat, what to expect to gain from the food eaten, what pathological conditions are presented by dietetics, and what physiological rank is established by proper attention to the pabulum put into the body, are questions of such importance as to command the high consideration of every thinking physician.

It is a well-established fact that many diseases are cured by dietetics which without their aid would have a fatal termination. The intelligence that would "stuff a cold and starve a fever," and deplete the circulating fluid, has in a large measure been buried with its authors. The very essence of dietetics is to build up. The sole object of eating food is to supply a constant molecular waste.

The consumption of tissue during high temperatures must be met by the supporting treatment of pabulum.

Prof. Graves "fed fevers!" Prof. Austin Flint pleaded for the supporting treatment of continued fevers; yet there are dangers of nutrition that the profession hardly dream of.

The prime treatment in continued fevers—typhus, typhoid, pneumonic and other acute fevers—is alimentation. It is of the highest importance. Present as much as can be digested and assimilated. In all stages of grave diseases there is a repugnance to food. Yet food should be given as a remedial agent, even when the patient does not desire it. This supporting treatment should be in the shape of an easily digesting, partly pre-digested liquid food given in small quantities and at frequent intervals. Amount given must vary according to circumstances; and without risk of over-accumulation in the stomach, and as much as can easily be disposed of.

There are certain tissues of the body whose dietetic necessities have received no attention from the profession. These tissues are peculiar in their demands, in that their wants are best supplied when all tissues are in a good physiological condition. Wilson enumerates seventeen different textures, to which we can properly add three more: the enamel, dentine and cementum.

Good firm, dense and decay-resisting petrous tissues, contain an average of 80 per cent. of lime salts; enamel, 90; dentine, 72; and cementum, 67 per cent. What is demanded is, that our patients may once more possess teeth that will not decay any more

readily than did the teeth of our grandfathers. This can be done. But it is not the condition of the dental organs to-day. Far from it. Almost any food will supply the soft solids of tooth structure, but not so with the inorganic constituents. Specific nutrient matter must be supplied for specific nutritive processes. Cellulose and gluten will not furnish the calcareous matter to build up the petrous tissues, nor can the teeth be built up at any time. They are built up once for all. The time to impact the lime salts into them is when they are building.

It is idle to affirm that because we have able and highly educated dental practitioners, it is useless for the physician to give any consideration to the conservative treatment of the petrous tissue. The physician has opportunities that no dentist can obtain. The opinions of the latter are not so much solicited as to "The best of food for the baby," and the special dietetic considerations that are going to affect that baby during his whole life. Therefore, accepting the obligations, let us examine the methods that have brought the best results.

The petrous tissues, as has been intimated, are composed of soft-solids and calcareous salts. Where the inorganic constituents are sparsely interspersed amidst the soft-solids, then we have frail and rapidly decaying teeth. Scarcely a child in the whole country, who has arrived at the age of ten years, can be found who has the six-year molars sound and healthy. Many of them have been extracted. These are the largest and most important teeth of the permanent set. The plain facts are that these teeth—

and the others, too—have been starved out of existence and brought to an early extinction, all because they have been deprived of nutrient matter containing the lime salts.

There is but one source from which can come in sufficient quantity to meet this specific want, these lime salts that are so prepared as to be rightly balanced and easily divisible into good strong bone and dental tissue. That deposit is in our cereal foods. The bran, or outside of all our grains, is rich in the phosphate and the carbonate of lime, especially the former, which exceeds the carbonate of lime in tooth structure more than ten times. Yet we permit it to be bolted out of our bread and fed to the swine; and, as a consequence, the petrous tissues are starved out of existence.

The teeth commence to form very early, and it is then that the mother ought to begin to feed herself upon the coarse bread foods. If she does, the child will receive the lime salts through the umbilical cord and lay a good foundation for both the temporary and the permanent teeth. The mother, if she nurse her child, should continue to receive not less than three times a day a liberal supply of bread foods, constructed out of the unbolted product of the specific grain used. Graham bread—that is unbolted—wheat bread, Indian and rye meal, or brown bread, oat-meal, and unbolted rye bread. There is no pabulum where the lime salts are so easily divisible from their construction, so readily digested, and perfectly appropriated by the tissues as is the case with the cereal foods. Through gestation and nursing these inorganic

constituents should be fed to the foetus and child. It is when building that the growing teeth want proper material to build with, from the sixth week of intra-uterine existence up to and beyond the twentieth year.

Caries in the dental organs can be cured by the dental operator only. But physicians can so build, that dental caries will be reduced more than ninety per cent. Will they do it?

We come now to consider those cases where the mother cannot nurse her child. A resort to artificial feeding, the bottle, is infinitely better than indifferent maternal nursing, or a large majority of wet nurses, or wet nuisances.

Cow's milk is more often substituted for mother's milk than any other substance, and there are more complications arising from such nursing than from the natural process. This is owing to the tougher casein found in cow's milk than in that of the human variety.

This can be entirely overcome if the mother or nurse will take the trouble to partly pre-digest the milk with pancreatic juice before ingestion. But few are capable of doing this. If the digestion is carried too far, the milk will be made bitter. If too much heat is applied, then the digestive ferment is destroyed and the digestion of the child is disarranged. But only for a short time can cow's milk furnish enough of the lime salts.

Do not starve the osseous and petrous tissues on corn starch, arrow root, baked, bolted wheat flour, or other kinds of starchy food! These may supply the soft tissues, but as for petrous tissue building, they are no better than distilled water!—*Medical Times*.

Salt Lake Sanitarian

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Devoted to the prevention and cure of diseases and injuries, and the promulgation of the laws of health and life.

DRS. SHIPP, EDITORS.

SALT LAKE CITY, AUGUST, 1888.

EDITORIAL.

THE CURE OF TYPHOID PATIENTS.

There is a large percentage of the people in Utah that do not depend upon the "doctor" when they get sick, that is, they do not call for his services when they are stricken down by disease. Their trust is in the "domestic treatment" and nursing to be found in the household. We might mention two reasons for this.

One is that in many of their towns and settlements, the "doctor's shingle" is not to be found, nor is there one conveniently near, but the most substantial reason to be assigned is that there is a characteristic tenet of their religion, "the exercise of faith," and the "anointing with oil" to heal the sick that prevails among them. It is not our purpose to discuss the religious phase of this question. We merely mention the fact as accounting in part, at least, for the absence of doctors. The doctrines of the Mormon people are ably promulgated in the columns of several publications devoted particularly to this business. However, we do not imagine that our position will meet with much serious objection, which is that "faith without

works is dead." To state it a little more practically, that however they may be "doctored or not doctored," upon the care and nursing the patient receives in serious sickness, depends immensely his prospects of recovery. Of course in this declaration we do not take into the account the "principle of faith—the faith by which the worlds were made," a small portion of which will move a mountain.

If competent nursing is so essential and desirable in the practice of the successful physician (Prof. Gross declared to a large class of medical students that if he were seriously sick and could not have both the skilled physician and competent nurse, and had to depend upon one of them only, he would take the nurse every time); if the physician feels so keenly the necessity of having good nurses to care for his patients where he is enabled to see them every day and give directions, what must be the importance of intelligent care of the sick, where there is no daily call of the practitioner to give instructions, all depending upon the handling they get from the family or inmates of the household? There are many diseases for which we have no specifics, no particular medicine that we can administer that will cure, where our entire dependence is upon diet and nursing.

To be sure we can attend to symptoms as they arise; for instance, if constipation exists we can give a cathartic, or if diarrhoea develops, an astringent, etc. But it is by the supporting of the system by proper feeding and hygienic regulations, with the right kind of nursing, that assist the patients on the way to recovery. This is especially true of typhoid fever.

In giving directions as to the care of a typhoid patient the first thing we would urge upon the attention of the person in charge, is the great necessity of rest and quiet, let nothing annoy or disturb. In the class of walking patients, as they are called, why so often, what appeared to be only a mild case of sickness, suddenly assumes a very grave aspect, that terminates fatally. Had the patient been sick enough to take to his bed in the beginning of his sickness, and kept quiet, the chances were that he might have weathered the storm. In severe cases of this disease, keep friends and visitors out of the sick room, that the repose and rest of the patient may be unbroken. Let the sick room be selected in the stillest part of the house and where the best ventilation can be secured.

In this fever, on account of the ulceration that takes place in the bowels, the feeding, or kind of food taken, is of the greatest importance.

It should be liquid, not coarse, nourishing and easily digested. Good milk stands first. Keep the patient clean, change often the bed linen as well as the clothing of the patient, particularly that which is worn next to the skin. Wash the body off with whisky. Let your manipulations be gentle in character and not long at a time, to become wearisome.

This disease usually runs a long course, three or four weeks. Patient carefulness, and long continued, will be necessary to get your sick man to the goal of recovery. Disinfect the stools and remove them immediately. I allude particularly to the urine that is sometimes "chucked under the bed"—the feces enforce their own claim.

Dr. Wilson, in a clinical lecture in the Pennsylvania Hospital, Philadelphia, gives his plan of treatment of enteric or typhoid fever in that institution, which commends itself very highly:

A series of clinical experiments continuously carried on during a period of five years, have led me to the conclusion that in theory, at least, if not, indeed, in practice, a specific treatment of the specific infectious diseases is the true treatment. By the specific treatment I do not mean that something taken at random has been found to exercise a favorable influence, but I mean the use of such therapeutic measures as have been found, by investigation and experience, to exert an unfavorable influence upon the continuing cause of the disease. Perhaps prior to the discovery of the fact that bark controlled ague, it would have seemed irrational to talk of finding a therapeutic measure which, by acting on the cause of the disease in the blood, would bring the ague to an end. We know that quinine will cure periodic fevers and is a specific in the sense that it acts directly upon the cause, and the work now being done in connection with the nature of the morbid principle in ague, and the known action of quinine upon the life history of certain of the lower organisms, shows that it is a perfectly scientific assumption that quinine acts in the body upon those organisms which infest the blood and produce the paroxysms of ague. What do we know about syphilis? If we assume that iodide of potassium and mercury merely act as tonics, the argument does not hold; but if we believe that they act on the organism as a specific, and

arrest its growth, then the argument does apply. I hold that in all infectious diseases we should seek for such remedies as will act upon the cause of the diseases and which, if they do not arrest the disease, will at least mitigate the symptoms.

The details of the plan which I have employed in the treatment of my cases of enteric fever during the period named, and which is based upon the theory of specific or casual therapeutics, is as follows: So soon as the patient is found to have enteric fever, or in many instances, so soon as his symptoms warrant a reasonable suspicion that he is about to develop it, he is put to bed, ordered a diet consisting of milk, animal broths, jelly and simple custards, in small amounts and at intervals of two or three hours. At night he is given a dose of calomel. This dose varies in amount from $7\frac{1}{2}$ to 10 grains (0.5 to 0.66 gramme), and is repeated every second evening until three, or rarely four, doses have been administered in the course of the first six or eight days. It is given alone or in connection with sodium bicarbonate. There is, commonly, a slight increase of diarrhoea, if it be present, without aggravation of the other symptoms, and in some instances the tendency of the temperature at this time to steadily rise appears to be controlled. If as is frequently the case, spontaneous diarrhoea has not occurred in the first week, calomel usually brings about two or three large evacuations on the day following its administration, not more. In either case, the tendency to frequent passages in the later stages of the attack is favorably influenced by the repeated administration of this drug during the

first week. If the case does not come under observation until after the tenth day, one only, or at most two doses of calomel are given. No further doses of it are, however, given during the course of the attack, unless constipation occurs. In this event, if the evidences of extensive or deep implication of the intestinal wall, such as abdominal pain, tenderness, or marked tympany, are absent, calomel in $7\frac{1}{2}$ grain (0.5 gramme) doses is given at intervals of four or five days. If there is reason to suspect serious intestinal lesions, the lower bowel may be more safely emptied of its contents every third or fourth day, by enemata of moderate size (8 to 10 fluid ounces). It is necessary to bear in mind that the gravest lesions of the gut, leading even to hemorrhage and perforation, have occasionally been observed in cases characterized not only by constipation, but also by an entire absence of pain or tenderness, and very moderate tympany. The danger of salivation from calomel in these doses in enteric fever seems to be slight. In only one case in sixteen were the mercurial fetor and slight swelling of the gums observed.

Excessive diarrhoea has been controlled by the use of opium, either in suppositories containing 1 grain (0.06 gramme), or by the mouth in quarter-grain (0.016 gramme) doses, often associated with bismuth and given *pro re nata*. It is an invariable rule that the patient be kept in the horizontal position and to the use of the bed pan and urinal, from the time of the recognition of the disease until defervescence is completed. He is, however, turned upon his side from time to time, and made to maintain

that position for twenty or thirty minutes, if necessary, being supported by the nurse.

From the beginning of the attack the following mixture is regularly administered in doses of one, two or even three, drops in a sherry glassful of ice water after food, every two or three hours during the day or night:—

R. Tinct. iodinii, ℥3ij
Acid. carbolic liq., ℥3ij. *M.*

Unless some unusual circumstances occur to render a change necessary, this medicine is not suspended until the attack draws to a close. It is well borne by the stomach and excites no repugnance on the part of patients. In one case only has it been necessary to omit the carbolic acid on account of the disgust caused by its odor.

Partly for the sake of its favorable influence upon the skin and for the sake of cleanliness, partly because of its favorable, though slight, influence upon the temperature, the patient is to be sponged twice a day with equal parts of aromatic vinegar or alcohol and cold water. If it is more grateful to him, this sponging may be done with tepid water, the evaporation of an extensive film of water not below the temperature of his body probably being not wholly without some slight influence in reducing temperature.

When the evening axillary temperature reaches 104° F., antifebrin, in doses varying from 5 to $7\frac{1}{2}$ grains, of antipyrine, in doses varying from 10 to 15 grains, is administered, and from time to time repeated as the temperature rises to the point indicated.

The minor nervous symptoms are best held in check by skilful nursing. For the relief of the headache of the first ten days, absolute quietude, a dim

light, etc., are often sufficient; occasionally the bromides alone, or in combination with chloral, are required. Later in the course of the disease chloral is unsafe. From the end of the first week the patient cannot be left unattended, even for a few minutes, without risk. Persons in whom delirium was only occasional and transient have, in many instances, destroyed themselves during the momentary absence of the nurse.

Alcohol is not often indicated prior to the beginning of the third week. It may, however, by reason of the habits of certain patients, be necessary throughout the attack. Although forming no essential part of the treatment, it is commonly administered in varying, though usually small, amounts toward the close of the sickness. Some patients do well without taking it at all. It is, of course, administered in accordance with well-understood indications: upon the supervention of delirium, ataxic symptoms, and the evidence of failures of forces of the circulation. The patients are carefully watched well into convalescence, and cautioned against too soon regarding themselves as restored to health.

The dangers of the establishment of a focus of contagion are guarded against by the systematic, thorough disinfection of the stools immediately after they are voided.

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Contagious diseases flourish in filthy neighborhoods; so does consumption. After having used up all the suitable material in a certain locality, it dies out, to reappear when new matter fit for its operation presents.

MOTHER'S METHODS.

BY E. R. SHIPP, M. D.

No. III.

"Every act we perform leaves within the brain a tendency or desire to repeat itself." This in a measure accounts for the ready facility with which people form habits. A certain thing may at first be quite unpleasant, and for the time even obnoxious; but as the repetition of the act or condition inures us to the situation, we in time become habituated so that we would not feel comfortable without that which we at first so much disliked. The principle of the force and power of habit is clearly demonstrated in the young infant, often before a week of its life has passed by. Frequently have we seen the baby but a few days old cry when it was laid upon the bed or in the crib however carefully and tenderly it may have been handled, or however soft and downy the couch, and the moment it was taken in the nurse's arms it would be stilled almost instantaneously. How do we account for this phenomenon? Doubtless when the little one had manifested uneasiness upon previous occasions it had been straightway taken out of bed and rocked in the nurse's arms. It might have been that it needed some little attention, such as changing or turning upon the other side. The heroic measures resorted to by nurses and mothers in such instances reminds me of a person suffering from some slight indisposition, it may be for example an attack of indigestion. Instead of resorting to some simple or natural means for relief, such as fasting for a time until the stomach had re-

gained its normal powers, or washing out the stomach with plain hot water, they would resort to pills and potions in innumerable variety.

Rocking, trotting and walking the baby may be compared to the stronger remedies when simpler methods would have been far more efficacious, and not at all injurious. The very best way to manage babies is to *see that they are comfortable and let them alone.*

Who would not protest against the undue tossing, trotting, rocking and walking to which these tender darlings are subjected. Methinks even the nurse and mother themselves, were they thus treated, would in time grow weary of the incessant manipulation, and protest vehemently as do the babies themselves sometimes, until, through force of habit, they are not satisfied unless constantly on the move. Even when asleep the cradle must be rocked. The latter is a practice injurious to the child and very taxing upon the strength, time and patience of the mother. For however great may be the pleasure to care for her loved one, other duties demand at least a portion of her time, and the mother must have a little time for recreation, else the health of the mother and child, too, will suffer as a consequence.

It has been said, and with much truth, that the veriest ruler of the household is the spoiled and mis-managed baby!

Some mothers keep a light all night. It may be a full blaze turned up or what is worse still, the light turned down. The latter fills the air with noxious gases, while the former is injurious to the eyes, and the little one readily learns to like what is not

naturally conducive to healthful repose. Oftimes they will fret and worry when the light is extinguished and lie perfectly satisfied and with wide open eyes when the light is restored again, showing the force of habit and the result of bad or unwise beginnings. In all cases there should be a methodical course adopted and persevered in from the very first day of the baby's birth, for the comfort and health of our darlings are too precious to be experimented upon, by one day trying one plan, and the next the methods of someone else. It seems there is little trouble in getting advice on these subjects for every mother has a peculiar way of doing things, and each thinks her own way the best, and would like to induce others to do as she does. One thing is sure, a mother cannot afford to adopt the methods of all of her interested friends, for they are as various as her friends are numerous. In all cases an intelligent thoughtfulness and a mother's natural intuition are the best guides. But we would repeat, *make the child comfortable and let it alone*. Teach it correct habits and it will, to a very great extent manage itself. The true mother will deem nothing a burden that pertains to the welfare of her child and she desires to give her best thought and judgment to this subject, and she may well do so for upon wise methodical care and management, does the health and oftimes the life of her offspring depend. If she be young and inexperienced she will seek wisdom from judicious reading or be taught by those who have a knowledge of the best methods to be adopted. Remember mothers when your babies cry it is not always because they want

to be taken up. See that they are not hungry nor thirsty ; that they are dry and warm and no pins nor tight bands irritating them. Your natural instincts, when troubled with a pain in the stomach, teaches you to loosen all the clothing and rub or knead the part affected. Try this with the suffering little one and you will see good results. Don't neglect to change the position of the child frequently. We would not be understood to keep the child sitting or lying continually. Never go to extremes upon this point no more than upon any other. Mothers should understand that the bones of the young infant are only cartilage, that they are soft and pliable and will yield to any compression made upon them, and maintaining one position for a length of time may cause deformity and suffering. It is an old saying that good babies are always neglected. So don't abuse the baby if it is uncomplaining. It is astonishing how very early the powers of observation may be cultivated. Just note the amused interest in the little face when it first discovers its own fingers ; we have often seen them thus pacified for quite a time, cooing with delight over the new-found treasure. And the little one's attention may be attracted from displeasing conditions a long time before it had the strength to lift the beautiful little hands within the range of its vision. This may be accomplished by a musical toy, or by bright pictures, highly colored ribbons or tassels hanging from the top or attached to the sides of the crib or bed. Then trifles will interest and delight the developing mental powers so that for the time it forgets to cry. But mothers don't get excited or

worried when your babies cry. Remember that at first this is the only way they have of expressing themselves and really crying is to a certain extent, a physiological process, and unless excessive and long continued, an advantage in expanding and developing the lungs. One learned physician says it is better for the child to cry during its bath for the exercise keeps the skin warm and aglow with the increased capillary circulation, so there is not much danger of congestion of the internal organs, chilling the surface and producing the condition commonly known as "taking cold."

Mothers don't forget to keep the baby's head cool and feet warm. Give abundance of pure air, after the first week, take it out for a ride or walk every day suitably clad for the weather and season.

How often have we had occasion to note the great frequency of throat and lung troubles in those who are kept closely confined in the house with scarcely even a breath of the fresh pure air. And the poor mother will wonder and exclaim, "How is it my precious babe is sick so much. I try so hard to take good care of him?" We might with propriety reply: "You are too careful." Keep your windows open at night and your bedrooms well ventilated in the daytime and you will soon see a favorable change. They are delicate flowerets from the parent stem and the same conditions that impart health, comfort and well being to your own bodies, will in suitable quantities and proportions produce the same effect upon the growing and developing constitution of the child. Food, water, air, proper clothing, cleanliness, judicious exercise and repose are all

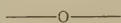
necessary to produce the desired end of growth and maturation into the magnificent type of man or of womanhood.

The queries of many as to how soon the training of the child begins, reminds us of an anecdote of the great poet Alexander Pope. A lady once approached him leading by the hand a child two years of age. She wished to ask the learned man's advice as to when she should begin the training of her little son. After enquiring the age of the child he remarked: "Madam you are just two years too late," and according to our inspired prophet, Brigham Young, this training or education begins several months previous to this. If all mothers realized and acted upon these truths what a different world this would be. Ah! how few mothers realize the effect of their own mental condition upon the minds of their offspring. Long before many are aware does the little one partake of the feelings and sensations of the mother. How soon the little innocent face learns to smile when mamma smiles, to beam with joy and delight when she is happy, and look sad and try to wipe the tears away with its tiny hand when sadness and tears are on her face and likewise when swayed by the stronger and more tempestuous emotions of anger, hate, or fear do these tender ones partake, to a very great extent, of the same sensation. Instances are authentically recorded when nursing the children during a paroxysm of anger or fright has caused convulsions and even death of the child. Then might we also note that a continuous unfavorable state of the mind of the mother might through the source of

nourishment influence the child unfavorably and *vice versa*. Then O, mother think of the serious responsibility resting upon you.

"A sacred burden is this life ye bear
Look on it, lift it, bear it solemnly
Stand up and walk beneath it steadfastly.
Fail not for sorrow, falter not for sin,
But onward, upward till the goal ye win."

What is that goal? Beautiful, healthful, moral children! The most heavenly and blessed heritage of woman.



ON TYPHOID FEVER IN CHILDHOOD.

BY F. FORCHEIMER, M. D.

GENTLEMEN: I shall point out to you to-day the peculiarities of typhoid fever as it appears in children. It is unnecessary to tell you that most diseases present differences in the way they affect children and adults. In this disease, as in most others, the younger the subject the greater the difference in its manifestations and course. If we study the disease in the child as it appears in the adult, we will often fail to recognize it as being at all the same.

The history of typhoid fever in children is quite recent. You will be astonished to hear that only so lately as 1872 and 1873, it was taught that typhoid fever does not exist in children and in infants. Do not infer that this was generally accepted by the profession; yet it was the teaching of the late Alonzo Clark, of New York, who said typhoid fever is not found in children and infants; it is only the disease mistaken for intermittent fever. The course of the disease in these children was not thoroughly under-

stood, yet long before this, post mortem examinations had shown the presence of typhoid fever lesions in children and infants. This was the view in this country and among very excellent authorities abroad. Those who admitted that it did exist, considered it to be very rare and that it was generally taken to be something else.

In some epidemics children suffer to a great extent. There is no good explanation for this. The present epidemic in this city is one in which many children have been affected. There are at present, 30 cases in our hospital, of which seven are typhoid fever. More than nine-tenths of all my cases of typhoid fever have been children; but of course my practice is largely among children. There are other epidemics in which the children are very rarely affected, yet it is quite possible that in some of these they are overlooked.

The house physician will now read the history of the case:

E— C—, aged twelve, colored, of good physique, was admitted January 22nd, 1888. He had had measles but no other disease. He was taken sick January 15th, with general malaise, pain in the abdomen and diarrhoea. This condition continuing, he came here. At present he has pain over the descending colon. There has been no hemorrhage, vertigo or epistaxis. The temperature is 103.5° and the pulse 120. The bowels are loose, micturition normal, lips dry, tongue coated and offensive. Abdominal inspection showed it to be moderately distended, few rose spots, gurgling in the illiac fossa but not tenderness. Urine normal, specific gravity 1013, colored redish, acid reaction, some albumen,

no sugar or bile. He was ordered first a bath in lukewarm water then given whisky and dilute muriatic acid. January 23, pulse 120 and temperature 103, baths repeated.

You have heard the history of this boy. Note well that he was taken sick on a certain day, that the date is mentioned. This is probably all we will get out of the boy. In the majority of instances the disorder begins suddenly in children, which is one of the characteristics of the disease. When the adult with typhoid fever is first seen, the practitioner gets an indefinite history as to the commencement of the disease, probably the patient has been feeling bad for a week or ten days. If called to see a child we generally have this statement: the child was taken sick yesterday evening and was taken so suddenly and seriously ill, that the doctor was called during the first two and a half hours. The child may have been playing around in the morning, languid in the evening and the next morning be ill. This very rarely occurs in the adult.

The child complains of pain in the stomach. When asked to locate the pain he will point indefinitely over the region of the epigastrium. Careful examination to localize the pain, does not find the abdomen sensitive at all. Any pain in the abdominal organs is referred to the epigastrium. Tenderness may not be found there, but on deep pressure it will be elicited in the iliac regions. It is only localized by careful examination and may require quite deep pressure. We can often only tell that there is pain by the child's crying or frowning. Another symptom in children is insomnia

in the beginning. This may alternate with drowsiness which is very marked, the child may not sleep at all at night, and yet doze all day. As a rule the child is sleepless at night and somnolent during the day.

Epistaxis is common, but in a great many cases is absent. In this epidemic only five per cent. of my cases had epistaxis. Not one in the seventy cases under my observation had serious hemorrhage. This is the case as a rule, but in some epidemics, epistaxis is severe and characteristic. The nose is, as a rule, dry, yet not dry enough to cause sneezing, which is consequently absent in most cases. Liebermeister says: "As rule, if sneezing is present there in no typhoid fever." The exceptions to this rule are notably present in this epidemic, I have noticed it more than ever before.

Condition of the tongue is the same as in adults, large, coated, red borders with red line in the center. We may find leptothrix and the remains of food coating the tongue. I have no explanation for this condition and would not be willing to make a diagnosis on the state of the tongue alone.

Cough due to bronchial catarrh, is present in nearly all cases.

A great many children and infants suffer with constipation. I am fully aware that in making this statement, I differ from many authors. Diarrhoea occurs, as the rule, during the course of the disease, but it is generally not very severe, with the peculiar pea-soup stools with more or less pain before the passages, sometimes after. Constipation, however, is the rule in children, and not diarrhoea. Enlargement of the spleen occurs in a majority of

cases, though it is not so important in the diagnosis as in adults. There are well authenticated cases where the spleen is examined post-mortem and found changed in structure though not in size. Hensch reports quite a number where the spleen was normal. This has also been my experience.

Vomiting is present in the inception in a great majority of cases very frequently, and we are sometimes at a loss to tell what we are dealing with on this account.

The changes in the intestinal tract are by no means so severe as in the adult and are altogether different. The changes in Peyer's patches are not so severe, intense, deep; not so extensive, more localized; the lesions do not, as a rule, extend into the large intestine. The child consequently suffers little with hemorrhage from the bowels. Only one out of my seventy cases had hemorrhage, and not one case of perforation occurred.

The great characteristic in children, is that typhoid fever produces deep and profound impressions on the nervous system. We have somnolence, wakefulness, headache, also changing of the disposition of the child. Those who were studious and agreeable before, are completely changed. After recovery, they remain nervous, fidgety and shy, while sometimes the unstudious child becomes the reverse after the disease. This unbalancing of the nervous system lasts a number of years in some instances.

The pulse, as a rule, bears no relation to the height of the temperature. With a temperature of 104.5° the pulse often is not more frequent than with a temperature of 102° . This is one reason why the disease is not

more frequently fatal in children. The heart is not so severely affected.

Complications are not so frequent in children. The proportion was very small in this epidemic. One complication which occurred in this epidemic was, when the fever was breaking up, or had broken up, the child was all of a sudden attacked with aphasia. We have no explanation of the aphasia of typhoid fever. Post-mortem examination shows no change. It is probably there but it is not discovered. This aphasia lasts a week or ten days, and the child begins to talk again. One sequel of typhoid fever which occurs in children and not in adults, is tuberculosis. The case is protracted for six, eight, ten weeks or three months, and, finally, the child dies of tuberculosis of the intestines, acute miliary tuberculosis or tubercular meningitis. The only cases of typhoid fever in children which have died, have been cases of this kind, in my experience.

The prognosis of this disease in children is extremely favorable. In seventy cases I have not lost one. The only exception to this general rule is the period of the newly born. During the first two months the mortality is very great, according to the statement of most authors, but I do not believe it is correct. Up to the age of twelve years, the mortality is very good, hardly over five per cent. The best results which we have had from this in adults is five per cent., but it is frequently higher than this. Usually in this hospital it is between six and seven per cent.

Treatment.—I believe in the possibility of aborting typhoid fever with calomel. I have done it, I believe,

over six times in this epidemic, and think I have done it before, but I cannot prove it. If I get a case before the fifth or sixth day I always give a dose of calomel, and a large one, in some instances repeating it. I then follow this up with rather full doses of antipyrine, because it lessens pain, and seems to have an antiseptic effect. I consider it of very great importance to have two beds, one for the day and one for the night. I choose the best room in the house for the sick-room, having no hesitancy even in taking the parlor, first removing all the bric-a-brac. The room should be one well lighted and well ventilated, and near the water conveniences. The diet should be absolutely fluid. It is not so particular that it be albuminous, but absolutely fluid, no bread, no toast. I have seen hemorrhage caused by bread. The patient will often beg for something solid to eat. We can give them tolu to chew, as what they miss in the fluid food is the customary chewing. I frequently give

R Acidi hydrochlorici, dil. 1.00
 Syrupi rubi idæi . . . 15.00
 Aquæ 45.00

M. S.—Take one teaspoonful every hour or two.

I employ sustaining measures, including whisky. In the antipyretic treatment we want to avoid everything which will cause a collapse. I never give cold baths to children, on account of collapse. I use the lukewarm bath or cold wrap, and prefer the former.

If the bodily heat reaches 103.5° in the axilla, it is the rule to give a bath which will bring it down to 101° . An evening temperature of 103° , a bath will bring down to 99.5° . Evening temperature of 104° , bath will bring down to what I show you on

the chart. You see this zigzag curve. You can say what stage of the disease the patient is in from the remission of the fever. Often we can say that the patient is in the third week. We cannot say for sure because of the age of the patient. The pulse, you see by reference to the chart, ranges 120 beats with a temperature of from 90° to 104.5° . If we feel the pulse we do not notice much difference in it. The whole course of the temperature in children is brought into less time than in adults. The four weeks are compressed into three. The first week we have ascent usually not very well marked. In the fourth week we have descent usually well marked. Frequently the continuous fever lasts longer than a week. This is not the rule but it does occur. A great many have a temperature of 103.5° on the fifth day. This condition may last a week or ten days, or perhaps longer. The temperature in the third week may come down suddenly, or may come down gradually.—*Medical Times*.

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SELECTIONS.

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THE EARLY STRUGGLES OF THE LATE DR. J. M. SIMS.

RELATED BY HIMSELF.

Prof. Alexander Russell Simpson, of the University of Edinburgh, in an interesting address on the International Medical Congress (at which he was present as an active and welcome participant), delivered at the opening of the session at that University, stated that Dr. J. Marion Sims had told, seven years before, in genial fashion, in the drawing-room after dinner, some incidents in his early

career which he could not resist the temptation of now repeating.

"I had graduated," said Dr. Sims, "at Jefferson Medical College, after two years of theoretical study, as was common with us at that time. You'll be surprised when I tell you that I had only had theoretical training; but in reality I had received no clinical instruction, had been called to walk no hospital wards, and had never seen a person die. I had learned something of anatomy, and enough of surgery to be able to tie the innominate artery or to cut down upon any nerve in the body; but as to medicine I had never been told how to distinguish a colic from a labor pain. The best openings for practice were at that time in the West; but I was very well satisfied with my acquirements, and thought I would do quite well if I started in my own native town. It was but a little place, and I settled in a house at one end of it. I remember well the sign plate I got put up on the door; it was made of shining white metal, and of striking dimensions, for it was between two or three feet long, with 'Dr. J. Marion Sims' on it in huge letters; and as I walked up the street I liked to see it glancing in the sunset. It didn't seem, however, to make much impression on the community. I had waited there for a fortnight, wondering when the practice was to begin. One morning I was reading at my window when the leading man in the town came along. He was a master tailor by trade, but he was the big man in the place, a sort of mayor. When he came to the window he stopped and called up, 'Well, Marion' (no one thought of calling me Doctor, for they had all known me there as a

boy), 'Well, Marion,' said he, 'have you ever got a call yet?' 'No,' said I, 'not yet.' 'Will you step along and see my baby? It's got summer diarrhœa, and seems rather badly.'

"I can't tell how big I felt. I never expected to begin my practice in the mayor's family. I had imagined that I should have to begin with working among the free niggers, who were often enough ill, but could never pay a doctor, and here my first call came from the greatest man we had—the man, in fact, who *ran* the village. I felt as if I had grown to twice my size, thought of ordering a new suit of clothes immediately, and fancied that my fortune was made. I went along and found the baby, which was in the midst of its teething, very ill with diarrhœa. I did not remember having heard anything about this summer diarrhœa at college, but of course I looked wise, felt the baby's pulse, examined its dejections, and cut its gums in two places. Then they asked me, 'What was I going to give the child?' That was a puzzler. I said, 'O, I'll make up some medicine at home. It'll take some time to get ready, so you can send Jinny along for it in an hour.' This Jinny was a sharp little nigger girl, one of those little mischiefs who can run an errand ever so fast when they are not wanted to. And I tell you I went home as quickly as ever I could, to get plenty of time at my books. Luckily for me, we had no druggist, or apothecary, or pharmacist to send prescriptions to, for I don't think I could have written one to save my life. Well I got home to my books. I hadn't a large library; just a few books on a shelf. There was Dewees'

Midwifery, Eberle's *Practice of Medicine*, and two or three others. I took down Eberle and looked him up on the summer diarrhoea of children. There were about a dozen pages, with one prescription, and sometimes two, on every page; for Eberle was great on prescriptions, and sometimes gave a whole string of them. I read seven or eight pages but didn't seem to know any better what to do with the mayor's baby. However, it was necessary to do something, so I took his first prescription—I don't remember now what it was—and by the time Jinny came along I had made up some powders. These I gave her, along with a note to her mistress with instructions to give one to the infant every two hours in a little syrup. I went along in the evening again to see the child, and was told the powders hadn't done it any good. I went home and made up the next prescription.

"This was the only patient I had, and I kept going three or four times a day to see it, and sometimes stayed all night. But it was always the same thing, 'The medicine is not doing it any good.' I turned a page of Eberle on that infant every day, but it steadily grew worse. Still I never dreamt but that it would get well. I couldn't imagine it possible that my first patient could die. I was doing my best for the child, and watched it very closely, along with the old black woman who nursed it. I fancy old nurses and young doctors don't get on very well at any time. The old nurses think that the young doctors don't know their business too well, and the young doctors feel that the old nurses look down on them.

But, to make a long story short, I was standing at one side of the bed and the old nurse at the other, when she looked across to me and said, 'Doctor, don't you think that child's agoin' to die?' I felt quite indignant, and said, 'No, I don't.' I looked again at the child, felt its pulse, and insisted that it would come all right. She said nothing. In a little while the breathing became slower, there was kind of convulsive movement, and the infant became alarmingly still. I whipped it out from under the bed-clothes, blew into the lungs, jerked it from side to side, and tried hard the ready methods for resuscitation. The old nurse came round to my side of the bed, and I think I feel her hand on my shoulder yet as she said, 'Doctor, it's no use a-blowin' and a-shakin' at that child. That child's dead.' I never was so astounded in my life. I went to the funeral, and went home more disheartened than I can express at having lost my very first patient.

"I hadn't got over my disappointment when, about a fortnight after, the foreman of the establishment came to me, and said, 'Marion, have you got any new calls since the mayor's baby died?' 'No,' said I. 'I wish you would come and see what you can do for my baby; it's got summer diarrhoea.'

"I did not feel so proud as I did of my first call, but went and found the child very ill indeed. Still I did not know what to do, and was obliged to go back to Eberle and make up his prescriptions as before. Only this time I began with the last prescription, and turned the pages backward. The child was getting worse and worse,

when, to my great relief, Dr. Jones, the village doctor, who had been away on a holiday, came home. He was a most excellent doctor, and I went and told him how the mayor's baby had died, and asked him to come with me to see the foreman's child. He kindly came, and, like a wise man, said very little when we were in the house; but when we got outside, and walked around to the back of the house, he said, 'I think this baby's going to die too.' 'No,' said I, 'it's impossible that two babies should die.' But die it did.

"I have never in all my life felt so cast down as I did just then. If I had had a thousand dollars I would have given up medicine forever, and gone in for some business. But I was a poor man, and my father had spent all he could spare in educating me. When the second child died I went home to my little office, took down the big plate, with Dr. J. Marion Sims on it, carried it into the back garden, and cast it into a well that was there, a hundred feet deep. If the well is still there, then that plate is at the bottom of it to this day.

"I managed to go back to Philadelphia, and worked hard at my profession. I would have you remember that nothing but hard work will enable a man to get on. It's not always the man of most talent and genius, but the hard worker that gets on best.

"The story I have told you is true, every word of it; and if I hadn't met with the double disaster at the outset, I might never to this day have known how ignorant I was, and how needful it is to work hard to learn how to practice."

A SURGEON'S LIFE.

BY THE LATE PROF. SAMUEL D. GROSS.

I have always held that it is impossible for any man to be a great surgeon if he is destitute, even in an inconsiderable degree, of the finer feelings of our nature. I have often lain awake for hours the night before an important operation, and suffered great mental distress for days after it was over, until I was certain that my patient was out of danger. I do not think it is possible for a criminal to feel much worse the night before his execution than a surgeon when he knows that upon his skill and attention must depend the fate of a valuable citizen, husband, father, mother, or child. Surgery, under such circumstances, is a terrible taskmaster, feeding like a vulture upon a man's vitals. It is surprising that any surgeon in large practice should ever attain to a respectable old age, so great are the wear and tear of mind and body.

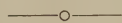
The world has seen many a sad picture. I will draw one of the surgeon. It is mid-day: the sun is bright and beautiful; all nature is redolent of joy; men and women crowd the street, arrayed in their best, and all, apparently, in peace and happiness within and without. In a large house, almost overhanging this street so full of life and gayety, lies upon a couch an emaciated figure, once one of the sweetest and loveliest of her sex, a confiding and affectionate wife and the adored mother of numerous children, the subject of a frightful disease of one of her limbs, or it may be of her jaw, if not of a still more important part of her body. In an adjoining room is the surgeon,

with his assistants, spreading out his instruments and getting things in readiness for the impending operation. He assigns to each his appropriate place. One administers chloroform; another takes charge of the limb; one screws down the tourniquet upon the principal artery, and another holds himself in readiness to follow the knife with his sponge. The flaps are soon formed, the bone severed, the vessels tied, and the huge wound approximated. The woman is pale and ghastly, the pulse hardly perceptible, the skin wet with clammy perspiration, the voice husky, the sight indistinct. Some one whispers into the ear of the busy surgeon: "The patient, I fear, is dying." Restoratives are administered the pulse gradually rises, and after a few hours of hard work and terrible anxiety, reaction occurs. The woman was only faint from the joint influence of the anæsthetic, shock and loss of blood. An assistant, a kind of sentinel, is placed as a guard over her, with instructions to watch her with the closest care, and to send word the moment the slightest change for the worse is seen.

The surgeon goes about his business, visits other patients on the way, and at length, long after the usual hour, he sits down, worried and exhausted, to his cold and comfortless meal, with a mouth almost as dry and a voice as husky as his patient's. He eats mechanically, exchanges hardly a word with any member of his family, and sullenly retires to his study to prescribe for his patients—never forgetting all this time the poor mutilated object he left a few hours ago. He is about to lie down to get a moment's repose after the severe toil of the

day, when suddenly he hears a loud ring of the bell, and a servant, breathless with excitement, begs his immediate presence at the sick chamber, with the exclamation, "They think Mrs.—— is dying." He hurries to the scene with rapid pace and anxious feeling. The stump is of a crimson color and the patient lies in a profound swoon. An artery has suddenly given away, the exhaustion is extreme, cordials and stimulants are at once brought into requisition, the dressings are removed, and the recusant vessel is secured.

The vital current ebbs and flows, reaction is still more tardy than before, and it is not until a late hour of the night that the surgeon, literally worn out in mind and body, retires to his home in search of repose. Does he sleep? He tries, but he cannot close his eyes. His mind is with the patient; he hears every footstep upon the pavement under his window, and is in momentary expectation of the ringing of the night-bell. He is disturbed by the wildest fancies, he sees the most terrific objects, and, as he rises early in the morning to hasten to his patient's chamber, he feels that he has been cheated of the rest of which he stood so much in need. Is this picture overdrawn? I have sat for it a thousand times, and there is not an educated, conscientious surgeon that will not certify to its accuracy.



A CURE FOR WRINKLES.—It is said that when lanolin is well rubbed in, it passes directly into the skin, and acts as a nutrient to the subjacent tissues, smoothing out the folds produced by the alteration of these structures incident to age.

POSTURE AND RECTAL DISORDERS.

The study of the posture of the human body in its relation to the needs of daily life has received a new impetus from Minneapolis. A physician of that city contributes to the *Northwestern Lancet* an article demonstrating that the squatting posture is the natural and proper one in defecation, and that the adoption of it tends to relieve constipation, heal hemorrhoids, and prevent uterine displacements. This physiological squat, it is believed, places the body in a position adapted to secure the greatest pressure on the abdominal walls and rectum. Besides this, it is so uncomfortable that the operator has to attend strictly to the business of the moment. He cannot dally with the morning paper while exposing the gluteal regions to subterranean draughts, and thus laying the foundation for fissures, piles and prolapsus.

The squatting position is naturally assumed, says Dr. Abbott, by monkeys, apes and man. In savagery and on the frontiers of civilization this posture is the ordinary one. But man seems to be a luxurious animal, and our writer must admit that, on the very first opportunity, he abandoned the ape position for any appliance that will support the thighs, from the edge of a board to the elegant ease of artistically perforated and polished mahogany.

Dr. Abbott apparently makes a strong point for the squatting posture when he says it is the one recognized by Holy Writ. While this may be the case, there is some reason, on the other hand, to believe that the squat is the natural position of the devil.

At least we are told in "Paradise Lost," that

"Him there they found,
Squat like a toad close at the ear of Eve."

Hence it will not strengthen the case to bring in the religious factor. But Dr. Abbott puts the case most strongly when he pictures the indolence which the American temperament exhibits in the water-closet—the only place where he is not in a hurry.

"How far from nature," he says, "is the woman, who, perhaps intensely interested in the question of blue or green for her bonnet, will sit in deep contemplation for ten minutes, straining, between thoughts, as if in childbirth, finally concludes she was mistaken and goes back to the bonnet, to return to the closet again only after three or four days of constipation have given her a splitting sick-headache. Man abuses his blessed privileges in the same way, figuring perhaps on a real-estate deal instead of a bonnet, or perhaps with magazine in hand making increment above, but failing in excrement below."

If the primeval posture suggested will make men and women distribute the time devoted to their emunctories more judiciously, it may be a wise measure to adopt, although we fear that it is not destined to have a fair trial in any but strictly rural districts.

Medical Record.

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Dr. John C. Peters, in the *Annals of Hygiene*, suggests that when the streets of a city are torn up, the escape of noxious gases should be rendered harmless by sprinkling a solution of bromide, one pound to 250 gallons of water, wherever these excavations are in progress.

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THE RELATION OF SOCIAL LIFE TO SURGICAL DISEASE.

ADDRESS BY THE PRESIDENT-

FELLOWS OF THE AMERICAN SURGICAL ASSOCIATION: As the generations fare on, enriched by the results of scientific labor, which pours its tides of opulence into all departments of human thought and industry, there follow through a reactive or reflex influence certain notable changes, not only on the life and manners of a people, but on their physical and mental diseases. The more advanced a civilization the more complex become the problems which surround it. While the accumulation of wealth and the multiplication of appliances for human comfort have in the aggregate contributed to the well-being of the race, yet there is reason to fear that the insatiate and ambitious demands of the masterful leaders in the work of the world, unless conditioned and environed by reasonable safeguards, may acquire their triumphs at the expense of human life. It is a suggestive and a solemn thought that in the victorious march of civilization thousands of victims must perish beneath her chariot wheels. There really seems to be a perpetual antagonism between man's inventions and discoveries and the well-being of a no-in-

considerate fraction of humanity. He reduces the elastic vapor of water to practical use, and is rewarded by seeing countless numbers of human beings blown into shapeless masses by his rebellious servant. His chemistry creates formidable explosives capable of dislodging the solid strata of the earth, and yet, in wicked hands, they become instruments for consummating such diabolical plots as serve to unsettle the peace of a nation. He rears manufactories for fashioning multitudinous fabrics which minister to the comfort and luxury of the race, and yet while the hands of the fabricator are busy manipulating the materials of these industries he is breathing a death-laden air. We send our missionaries to China and the Sandwich Islands to reclaim their peoples from the barbarities of heathenism, and then our commerce to ruin their souls and wreck their bodies. There seems indeed to be an eternal conflict between good and evil.

Considerations like these naturally lead to a very inviting field of study, namely, the relation between the material prosperity of a people and the forms of their disease. What I propose, however, in discharging one of the duties belonging to the honorable office to which, by your kind suffrages, I have been elected, is very briefly to follow one line of this inquiry, that is,

THE RELATION OF SOCIAL LIFE TO SURGICAL DISEASE.

There is no tyranny more exacting or despotic than that exercised by the conventionalities which govern our living. All stages of life, from infancy to old age, are under its domination. It dictates the education, the manners, the walk, the dress, the forms of speech, in fine, the whole being. Beyond all contradiction the behests of fashion are vastly more influential in governing public conduct, than any arguments drawn from the teachings of structure and function.

As a rule, when the conflict is between taste and reason, the victory will be on the side of taste. In nothing is this more forcibly displayed than in the apparel used to protect the body. It is not an agreeable task to peer into the wardrobes of dressing-rooms of our fair country-women. I have no special taste for exploring museums of bizarre collections. Indeed, without a key to interpret the curious and ingenious mechanisms for clothing the form divine, such an exploration would be like an archæologist attempting Egyptology ignorant of cuneiform inscriptions. I have, however, some knowledge of human anatomy in its broadest sense, and when I look upon the masterpieces of the human form, whether in marble or on canvas, a *Belvidere Appolo* or a *Venus de Medici*, and contrast these with the dressed-out specimens of modern women, I am forced to admiration; not so much at the amazing ingenuity displayed in concealing the divinely appointed form, as at the plasticity and patient submission of mortal clay under the despotism of a conventional inquisition. Were these processes of

mutilation and abnormality harmless, did the body consist of a mere mass of protoplasm capable under the application of certain stimuli of assuming normally protean shapes, the subject might be passed over with the feelings of a naturalist, but this is not so. These violations of the laws of structure bring with them serious penal inflections, which, did they terminate with the original offender, might be dismissed with a sentiment of pity, but projecting as they do their baneful consequences to successors, they become proper subjects for criticism.

Let me name a few examples as illustrative of my subject. For some time the profession has been speculating on the causation of nasal and post-nasal catarrh, with its accompanying auditory defects, the growing frequency of which cannot have escaped general observation. Doubtless no single agency will explain the presence among us of this unpleasant disease, yet there are facts connected with this affection which to me are very suggestive. I cannot recall an instance in which I have met with the disease among females belonging to the Society of Friends, Dunkards, or Mennonites. If this, on more extended observation proves to be true, may not the head-dress peculiar to these people be accepted in explanation of their exemption? The bonnet which at one time overshadowed the entire head, as all know, has been gradually shrinking in its dimensions, until it has become a mere shadow of its former self, and offers no protection whatever to the head. As a substitute, I would not insist upon the quaint head-gear of the Friend, though I believe that any modification which will protect this

part of the body will lessen the tendency to catarrhal inflammation of the naso-pharyngeal mucous membrane.

Muscular restraint.—A legion of physical imperfections arises from muscular restraint. Among these may be mentioned weak ankles, narrow or contracted chests, round shoulders, projecting scapulæ, and lateral curvatures of the spine. The foolish concession to appearance and the unwise partiality of parents for enforced systems of education, the demands of which bear no just proportion to the capacity of the infantile mind, constitute the initial or determining force of these physical imperfections. In many cases the weak ankles of children, characterized by eversion of the feet, thus allowing the superincumbent weight of the body to be transmitted to the latter inside of the proper center of support, is largely chargeable to the miserable practice of placing on the little ones, long before they are able to walk, boots tightly laced up the limb, some distance above the ankles. The confinement of the flexor and extensor muscles by this constriction prevents that free play of movement which reacts so favorably on all the elements of an articulation, and that, too, at a time when the growing forces are at full tide, so that, when the time arrives for standing and walking, the muscles are unequal to the firm support of the joint. The consequence of this feebleness is soon seen in the turning outward of the feet, throwing the strain on the internal, lateral ligaments, which in turn become elongated through growth, and thus the defect becomes established; but the evil does not terminate here. The calcaneo-cuboid and the astragalo-

scaphoid ligament losing the proper support of the tendon of the posterior tibial muscle, under the abnormal tension began to yield, and to the deformity of eversion is added that of "flat-foot." That the above is not a mere hypothetical explanation of the ankle defects, I have many times verified by finding the threatening symptoms disappear after liberating the imprisoned muscles and subjecting the enfeebled parts to a judicious massage. Under no circumstance, as is too often the case, should instrumental apparatus be applied, unless in cases where, from neglect, the deformity is thoroughly established and is progressive.

Take another deformity, that of bow leg. On the earliest signs of the unsightly curve, the limb is too often trammelled with irons, and the growth of the muscles arrested, when it is well known that if manual force be systematically applied two or three times a day, the limbs will gradually assume their typical form.

Again, in further illustration of our general text, take as an example a child who, for one long or two short sessions for six days of the week, sits over the study desk, compelled to assume a position in which from the inclination of the body the shoulders fall forward, the head being supported most probably on the elbows and hands. In such a posture, the great serrati de pectoralis major and minor muscles are in a state of relaxation, while the erector spinæ and trapezei muscles are in a state of tension. This change in the position of the shoulders gives the scapulæ over, without antagonism or resistance, to the action of the rhomboidei and the levatores angulæ scapulæ muscles, which acting

conjointly cause that projection of the lower angles of the shoulder-blades, which the older anatomists termed "*scapulæ alatæ*." To all this must be added the very important factor of four to six hours in the school-room and two hours at least of home preparation for the following day's recitations, during which time the respiratory functions having been reduced to a minimum of activity, the muscles of the chest are comparatively passive, and aeration of the blood tardy. Certainly no combination of conditions could be better devised for forming contracted chests and round shoulders. It is not long before the watchful eye of the mother detects the change in the figure of her child. She will probably discover this and take alarm, even when the pale face, the languid air, and the capricious appetite of the child cause no anxiety; and then comes the second act in the drama of physical deterioration, namely, a resort to shoulder braces and stays, in order to accomplish that which the muscles should be taught to do without restraint or encumbrance.

Lateral curvatures.—While it is true that lateral curvatures of the spine depend upon causes both central and peripheral, yet in no small number the deformity is clearly attributable to influences of a social nature. The young column, by reason of the non-union of the epiphyses and diaphyses and the supple character of its ligaments, is extremely flexible. Whatever, therefore, destroys the muscular equipose, however inconsiderable the force, if persistently repeated, changes the center of gravity and develops primary and compensating curves. For six months in the year, any fine

morning groups of young children may be seen plodding along our streets with a miniature library of books suspended from one shoulder. To the already prepondering scale of the balance, add the additional factor, a probably badly arranged light, compelling these little *savants* to assume a lateral inclination of the body in order to obtain the necessary illumination of the subjects of the study, and you have all of the conditions necessary for perpetuating the lateral deformity. "Just as the twig is bent, the tree's inclined." As in the case of round shoulders, so here in order to prop up the falling column, instrumental contrivances are immediately called into requisition. The body is encased in a formidable coat of mail, to be followed by muscular atrophy and permanent distortion of one of the otherwise most beautiful pieces of mechanism in the human frame. It is true that in most educational institutions for the young, provisions are made for physical culture, and these are in some measure antidotal to the evils complained of, but in my judgment do not at all compensate for that free unstudied romp in the open air, untrammelled by the hard and fast rules of calisthenics, so fascinating to the young child. Nor does the evil end here. While the forcing process which is to stimulate the mental powers far beyond the real capacity of the immature and growing brain to receive, is in progress, another is inaugurated, which is to qualify, especially the female child, to acquit herself with distinction when the time arrives for entering the great world of society, or, as Thomas Brown would style it, "for the frivolous work of polished idleness." The gait and

carriage must be reduced to prescribed rules, the voice toned down to a drawl, or trained to move like a mountain torrent. The muscular apparatus of the face must be taught to express, not the spontaneous and natural outflow of feeling which wells up unbidden from the magic chamber of the heart, but rather to produce an effect; and so this work of transformation goes on until it culminates in the full-blown society girl. Is it any wonder that under such a scheme of education, conducted throughout by a studied disregard of both the physical and mental constitution, and exercising as it does such tremendous drafts on the nervous system, that the world is becoming filled with a class of flat-breasted, spindle-limbed young women, unfitted for the varied and responsible functions of womanhood, qualifications, too, which, under a different regimen and directed into proper channels, would exert a most potential influence on all the great social and moral problems of the age?

While thus plain spoken on the frivolous methods of living, I do not wish to be understood as being unfriendly to the highest cultivation of the mental and physical powers, if conducted on lines in harmony with the organization, nor to any technique which may conduce to personal grace or elegance of manners, so that the manly or womanly personality of the individual be not sacrificed to the Moloch of sentiment and sham. Indeed, indifference to these things is inexcusable in either man or woman, as not only lessening their influence in the world but in many respects disqualifying them for the highest discharge of the duties of modern life. Valuable as may be

the unpolished diamond, yet it is only after the wheel of the lapidary has worn away the dull incrustations that its true brilliancy is revealed, and the gem is fitted to adorn the brow or the breast of beauty.

Bodily constriction.—In the further discussion of my subject, I may next notice the evils of visceral displacement and pressure consequent on abdominal constriction. Whatever may be said in regard to Greek and Roman life, the infinite care which these people displayed in developing and maintaining the very best type of the human form is worthy of admiration. The Ionic "cheton" spoken of by Attic writers and so often represented in the bronzes of Herculaneum, while it would not exactly satisfy the modern idea of dress, was at least free from the charge of interfering with the contour of the human figure. The painters and sculptors of those classic days were reverent students of nature. Their delineations were true to life. Their works furnish us with no hour-glass contractions of the human body. The constriction of the waist operates injuriously on both the supra- and infra-diaphragmatic organs. Any force acting on the base of the thorax and preventing the expansion of its walls concentrates the function of respiration, which should be general, on the apices of the lungs and hence, under these circumstances, the movements of breathing are for the most part confined to the summit of the chest. As the initial seat of tuberculosis is located at the upper part of the lungs, may not the inordinate work entailed on these parts by constriction have some part in hastening such deposits in the female where the predisposition exists?

It is this forcing inward of the costal border of the thorax which causes the groove on the anterior surface of the liver, so familiar to anatomists. This pressure cannot fail to interfere with the descent of the diaphragm, and with the functions of the gall-bladder and duodenum, and exercises no small degree of influence in favoring the formation of biliary calculi, females being peculiarly prone to such concretions. The extent to which the liver may be damaged by extreme constriction of the waist is well illustrated by a case quite recently reported in the *British Medical Journal* in which a considerable portion of the left lobe of the liver had been separated from the right, the two being connected only by a band of connective tissue, and which enabled the operator to remove the detached mass without difficulty. The evil effects of this constriction on the viscera of the abdomen and pelvis are most strikingly witnessed in the embarrassed portal circulation, in the different uterine displacements, elongation of ligaments, displaced ovaries, tubal inflammations, hemorrhoids, hernia and other morbid conditions which either prevent or disqualify the woman for the exercise of the functions of maternity, and which, in addition, through reflex influences, entail a host of functional disorders reaching into every avenue of the body and invading both the mental and moral constitution of the victim. So prolific have these infirmities become that a new department of surgery has been organized for their special management. To what, if not to social causes, can these morbid changes of structure in the pelvic organs, especially of the uterus and its appen-

dages, be attributed? Why should laceration of the cervix uteri be so common an accident? Labor is a natural process, and ought not under ordinary circumstances to be attended by lesion of uterine tissue. I can conceive of no agency more likely to induce that muscular degeneration which predisposes to this accident than the modes and methods of modern living, especially among the inhabitants of great cities. In the expression "modern living" much is embraced. It includes culinary pharmacy, over-feeding and drinking, insufficient or injudicious exercise, improperly heated apartments, and a disproportion between the hours of exercise and rest. Contrast, if you will, the muscles of the hardy, country housewife who, bearing the cares and responsibilities of a dependent family, bustles about the livelong day in-doors and out of doors, eats with a relish her plain and simple fare, repairs at seasonable hours to bed, and sleeps the sleep of the beloved, undisturbed by dyspeptic nightmares, and, rising with the golden dawn, resumes the round of domestic toil with a clear head and supple limbs; I say, contrast this type of a class with that of another, the woman born to luxury and ease, whose capricious and exacting taste taxes the art of the professional caterer, who drags out the morning hours toying with some crazy piece of embroidery or trashy novel, lunches at one, rides out in the afternoon for an airing of two or three hours, returns to a dinner of five or six courses at seven, completes the evening at the opera, the theatre, or the assembly, and, coming home after midnight, crawls into bed weary and exhausted in body and mind, only

to rise, with the best hours of the morning gone, for another day of aimless routine life. Can it be doubted that in the first case, with digestion unimpaired, with the products of textural changes consumed by functional activity and eliminated through the proper emunctories, the women should possess vital resistance and a tone of tissue altogether superior to that of the other, whose habits of living must necessarily favor their faulty metamorphosis?

To these same agencies must be attributed that brood of nervous and hysterical evils for the relief of which the gynecologist too often, I fear, invades the domain of womanhood around which her whole sexual nature revolves, and which, save only in the direst extremity, should be sacred against all operative intrusion.

Late marriages constitute another social evil, the penal inflictions of which involve both sexes alike. Pride and luxury determine long engagements or deferred proposals. Marriage, it is believed, necessarily involves an establishment, a display, a retinue of servitors. The good old notion of two souls being united in wedlock for the purpose of being mutual helpmates and patiently together working up from modest beginnings to affluence seems to be entirely at variance with the modern idea of this relation. In the meantime the young man is betrayed into unlawful sources of gratification, alike destructive to moral and physical purity, the pollution of which incontinence is often subsequently communicated and perpetuated to wife and offspring. I would not dare to say how many cases of this nature have been entrusted to my professional con-

fidence, though, I doubt not, my experience does not differ from that of many of my professional brethren whom I address. It is under such circumstances that many of those infective inflammations of the Fallopian tubes, as salpingitis and pyosalpinx, arise, and which entail the most serious deterioration of health.

The foot and shoe.—It may be thought by some persons that the subject of the foot and the shoe is not of sufficient dignity to appear in a public address. The Romans and the Greeks thought differently. The literature of both people is full of references to the shoe worn by both sexes. So important, indeed, are the feet to the well-being of the body that whatever impairs their usefulness, either for support or locomotion, becomes a positive calamity. Nothing can be more unlike the human foot than the modern shoe. Let anyone leave the impress of his or her foot in the wet sand of the sea-shore, and then place alongside of the imprint a fashionable shoe; that the two were ever intended for each other would scarcely strike a child of the forests. The North American Indian entertains juster notions about clothing this portion of his body than does the civilized denizen of New York or Philadelphia. Compare the moccasin with the shoe of the city belle. By comparison we shall see that the savage and the polished Greek alike understood the value of sound feet in the race of life. It is the imperfect adaptation of the shoe to the foot which constitutes the fruitful source of tired ankles, corns, bunions, overlapping of the toes, and ingrowing nails. Some idea may be formed of the magnitude of the evil from the

fact that of eight hundred patients under the care of a prominent chiropodist of Philadelphia, the great majority of the defects were entirely attributed to the high heels and the contracted toes of the shoes. Especially do these physical encumbrances, arising from a blind submission to social laws, operate disadvantageously to our fast women at the beginning of the new dispensation requiring both muscles and brains, and when her friends propose to sweep away all the old traditions and claim for her the earth with all its masculine employments.

Games and amusements which in themselves are proper and praiseworthy, too often become developed into a craze, working both moral and physical mischief. Professor Lauf, himself a professional in the national game of baseball, has described the pitcher's arm, a condition of over-taxed function, and one in which all the anatomical elements of the upper arm are involved. There is also the tennis arm and the swollen, supersensitive prostate of the bicyclist, both due to the abuse of popular amusements.

Defects of refraction or visual defects constitute another class of affections fairly attributable in many instances to social influences. The number of children who may be seen in our streets any day wearing glasses has become a matter of common observation. It is far from being probable that the most exquisite piece of mechanism, the human eye, came from the Divine Artificer imperfect. Because eyes are young, it does not follow that they are thereby better fitted to sustain prolonged use. Just the reverse is true, and it is high time that parents and

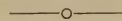
educators begin to recognize the fact. The power of the eyes for continued use, like that of other organs of the body, is one of gradation. It moves in the general procession and strengthens with the advance in life, until development has attained to its zenith. Not only so, but the eye being a part of the body, it must suffer or rejoice through the operation of general causes. A bone may have its normal curves changed, a tendon may slip from its appointed groove, or a blood-vessel be destroyed, and yet very little disability be realized; but the eye is made up of such extremely delicate structures and acts according to fixed physical laws, that not the slightest alteration of a curve or the mobility or density of its media can occur without great vitiation of function. To exact, therefore, long hours of study from children of a tender age, involves a degree of functional strain altogether disproportionate to the structural resources of the organ, and by disturbing the orderly processes of nutrition gives rise to hypermetropia, asthenopia, astigmatism and its companion, headache. To prove that the picture is not too highly colored or the causation overstrained, we have only to contrast the children born and reared in those portions of the country not too much dominated by the methods of modern civilization, and who rarely demand a resort to artificial aids to provide for abnormalities of vision. The only remedy for the evil, where infantile scholarship is insisted upon, is the Kindergarten or object system, the most natural and effective plan of impressing the young mind.

Renal disease.—Is there any reasonable explanation drawn from sources

of a sound nature for the great frequency of those renal disorders which come more particularly under the care of the surgeon, as crystalline deposits and calculi? For maintaining the general health at the highest physiological standard, a proper quality of food and the proper disposal of tissue-waste are essential conditions. Along with wealth and luxury come the abuses of the table. Americans are fast becoming a nation of dyspeptics. Our country is so rich in the products of every zone, that nowhere else in the world can you find such a variety of foods, animal and vegetable. These foods, manipulated in a thousand ways by the subtle art of the professional cook, almost necessarily betray one into excess, and also create the desire for wines and other alcoholic beverages to aid the stomach in disposing of its plethoric supply. In great cities, which furnish relatively the largest number of cases of renal disease—affecting pre-eminently the mercantile and sedentary classes—we find just the conditions favorable to their development. The competition of trade keeps the merchant always at white heat. Time is golden and the street-car and other means of conveyance annihilate distance, and the ride is substituted for the needful walk. A hasty lunch at the most convenient restaurant satisfies the inner man until the business of the day is closed, when, weary and worn, he is driven to his home to partake of a course dinner, the balance of the evening to be spent on the lounge with the evening paper or the latest periodical. To the literary man the fascinations of the study and the library charm him away with their siren voices from the fields and the highways, until

bodily exercise grows distasteful and repugnant. In the meantime there has been no provision made for the waste or tissue metamorphoses of the body through that great agency, exercise. This tissue-waste accumulates in the blood; the internal eliminating organs, of which the kidneys are chief, are overtaxed, and then follow the evils of malassimilation, and of excretion, in the form of urates and oxalates, often resulting in the formation of calculi.

In conclusion, may we ever hope for a time when the race will realize that these bodies which we wear, which God has so highly honored by his own incarnation, are sacred temples to be kept in harmony with recognized physical laws, and not to be made instruments of mere animal gratification?—*Medical Record*.



THE EFFECTS OF PRESENT EDUCATIONAL METHODS ON THE HEALTH OF WOMEN.

BY C. A. L. REID, M. D.

In a paper before the Ohio State Sanitary Association, at Toledo, February 10th, the author said:—

In a practice of fourteen years, devoted largely and latterly exclusively to treatment of diseases of women, my attention has been attracted to the frequency with which a certain class of cases present themselves. A young girl of fourteen, of previous excellent health and good physique, begins to lose her appetite, has headache and indefinite pains all through her body, and, in short, has neurasthenia. She is ordered from school, given a complete change with different surround-

ings, and returns quite restored. At sixteen she is fairly in the high-school course. Bright and precocious, she shows the mental and physical vigor with which she is endowed. But there comes a change. She begins to complain of pains low down in the back, and she has serious trouble each month. Soon the periodic function fails to appear or is scantily performed if at all. She has a slight cough, is pallid and warm in the mornings; but at this stage or a little later, as evening approaches, a flush is again on her cheek, the light in her eye, and the red again on her lips. These are but the evanescent play of colors on a ghastly background. She is pronounced the victim of incipient consumption, taken from the school-room and sent in search of the health forever lost.

I could multiply the list of cases in which girls and women, pupils and teachers, have contracted diseases while in the discharge of their duties. It is the central fact in these cases, and others of which they are types, that they occurred in individuals subjected to conditions and influences which obtain in ordinary school-life. In endeavoring to analyze these conditions in causative relation to diseases such as have been indicated, it may be well to consider (1) some general questions in regard to school-hygiene; (2) some especial hygienic conditions which affect female pupils; (3) some especial hygienic conditions which affect female teachers; (4) some suggested remedies.

In a preliminary view of the subject as a whole, we are impressed with the idea that whatever department of the topic we may look at, we behold a

battle of contending forces, those of the vitality of youth on the one side, and those of the unsanitary conditions surrounding them on the other. I shall therefore arrange these forces in a sort of credit and debit style in a fancied physiological ledger, and when I am through will ask you to assist me in striking a balance.

The topic of general school-hygiene is a very hackneyed one, yet it is a theme of such urgent and present importance that it should be fairly thundered at all times until a too heedless public gives ear to its teachings. In opening this invoice account we have first to put on the invoice a splendid potentiality in the form of youth. In this connection youth implies expansive energy, a physiological impulse to growth and development, fortified with organisms to make that impetus sustained and effective.

In this country we can put down on the side of good conditions promotive of vitality, good food, warm clothing and comfortable abodes. The school age generally furnishes a child of fair physical endowments fair hygienic environments at home. It is entering an arena, however, where it is to encounter antagonistic influences. The school-house itself furnishes the first adverse element in the conflict. Within its walls the child sighs for the air which has placed the bloom upon her cheeks; she pants to resist the oppressive heat; the odors offend her yet untried olfactories.

In the next place she is subjected to the general unsanitary conditions; but the evil of stair climbing is especially pernicious to her, because it is very probable that she presents a case of intro-pelvic disease provoked dur-

ing her pupilage and existing later at an advanced stage of development. I beg to protest against the rule requiring teachers to stand during school hours, and which to my knowledge is enforced in some popular schools in this state. Blackboard exercises and chart demonstrations, when long continued, work damage by placing the abdominal muscles on a tension, and thus inducing persistent downward pressure of the pelvic organs. There are, however, some cases of illness among teachers for which schools and school-work are unjustly blamed. The long hours before and after school are very tempting to the ambitious teacher to take some extra task. Some take up an outside study, as stenography, medicine, law or book-keeping. Others become correspondents in law and other offices, having already done a day's work; and some self-sacrificing creatures are not uncommonly found doing the domestic work for an entire family, in addition to discharging the onerous duties of the school-room. Of course the constitution breaks down under the double strain. I said the school system could not be blamed for these cases, but on second thought beg leave to recall the remark. The motive for taking extra work, particularly professional study, is the hope to get into employment that has about it some certainty of continuity and some prospect of reward. The uncertain tenure of position in the profession of a teacher, depending as it does upon the most fickle of all institutions, a political board, cannot but be a source of anxiety and discontent.

The public school system is by all odds the largest and most potent sin-

gle instrumentality in the United States. It illumines more minds, irradiates more homes with the sunshine of intelligence, prolongs more lives, and fills more untimely graves than any other power in the land. It is the purpose of progress to eliminate that which is evil and retain that which is good. I am aware the philosopher would say, "Hands off! This is a fight for the survival of the fittest! Let nature's laws have their sway!"

This is wrong. The feeble minority have their rights, and it is the business of the humanitarian to respect them, and to see that the conflict is a fair one. It is particularly the business of the aforesaid humanitarian to see that the feebler combatant in the arena be not placed at a disadvantage by man-made conditions. I would strip our school system of every thing that is artificial and adventitious, and bring it back to natural ways and natural methods. I would see that the curriculum of study was arranged with reference to the physiological synthesis of the mind. It should be remembered that a precept is the necessary antecedent of a rational concept. The senses should therefore be cultivated in an easy and gradual way; but I am not dealing now so much with the psychical as the physical phase of these hygienic topics. Turning therefore to this side of the question, I would have the air free even to the school children. The greatest of all mental and cerebral stimulants is oxygen, and I would furnish it to them in wholesome and generous quantities. The brain work of the world is done north of the frost line, and I would therefore take the hint which nature and history furnish, and keep the

temperature of the room within normal limits,—seventy degrees or less. It is preferable to generate the heat within the pupil than outside of her, and it is vastly more economical to use her lungs as a furnace, with pure air as a fuel, than the stove as a radiator and even natural gas as a combustible. It is a penny-wise and pound-foolish policy which prompts the saving of ground to such an extent in our cities as to convert our temples of learning into veritable towers of Babel. But if from necessity they are built so lofty, girls of from twelve to seventeen should never be called upon to climb the long flights of stairs.

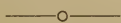
The farce of stated final examinations should be done away with. That teacher is unworthy her calling who cannot at the end of the year indicate with accuracy and precision just which pupils are and which are not ready for promotion, and her dictum should be final. Published grades do more harm than good in the cases of sensitive girls of moderate capacity.

I beg leave to make another general criticism and suggest a general remedy which is of great importance. Our present school system, relying almost exclusively upon books as the media for the communication of knowledge, tends to develop the reflective centres rather than the perceptive faculties, and, through the imposition of inordinate tasks, brings on an ultra-mental mood, which is inimical to the physical welfare of the pupil. In the case of sensitive girls, this wear and tear brings on a state which a scholarly friend of mine has aptly designated as one of "morbid subjectivity." The remedy which I would suggest is: more attention to physical culture, not

in our select schools and endowed colleges, but in the public schools,—the university of the people.

Do not think from what I have written that I take a gloomy view of either the present or of the future. On the contrary, I am a pronounced optimist on this as every other topic, and believe that the schools of to-day are better than those of any previous day, that the health of the school-children is better, and that the teachers have a finer physical stamina. My present complaint is but a protest against a longer continuance of certain remaining evils, viewed from my particular stand-point as a specialist in medical practice. These evils are less striking than they were, and, I am happy to believe, are gradually receding before the new order of things. This new regime involves the adoption in our schools of the axiom that the successful man must first be a good animal; it involves recognition of the principle that education, to effect its true end, must develop co-ordinately the mental and physical organisms, if indeed they be capable of separate mention. Germany has gymnasiums established beside each school-house. Wellington said it was the manly sports of Etohi that won the battle of Waterloo. If physical culture has had such an influence on history through the medium of man, what possibilities are not in store when the effort to influence the race is made through the more conservative organization of woman? The eastern colleges, Wellesley, Vassar, Brown and Smith have excellent gymnasia, and I would that our western colleges were following the example of their eastern competitors. But my special plea

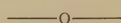
on this occasion is that our common schools, through legislative enactment, come to the rescue of pupils who are now dying, the victims of defective educational methods. This can only be done by imitation of the German example, the establishment of facilities for physical culture at each school-house. This will at least turn the attention of a rising generation toward an ideal manhood and womanhood, and start them on the road to the attainment of its realization.—*Medical Bulletin*.



THE TREATMENT OF TYPHOID FEVER BY CARBOLIC ACID.

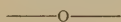
Dr. Gramshaw recently published the results obtained by him in the course of seven years, in 116 cases of typhoid fever treated by him with the following formula: Carbolic acid 12 minims, tincture of iodine 16 minims, syrup of orange peel and water to eight ounces. Of this mixture he gave an ounce every four hours. The good effect is manifested almost immediately, in a fall of the temperature, a lowered pulse-rate, and a cessation of the diarrhœa. The treatment is evidently based on germicidal theories, though the strength mentioned, when mixed with the gastric and intestinal secretions, would not be such as to interfere with the comfort of these stalwart microbes—if microbes there be. Turning, however, to these results—for the proof of the pudding is in the eating—out of the total number of 116 patients, 17 were children, 10 adolescents, and the remainder adults of both sexes. Of all this number, only one proved fatal, and

even in this instance the death was due to something else, a stomach-ache, perhaps. With such figures to work from there ought to be a rush on the part of practitioners to give their patients the benefit of Dr. Gramshaw's discovery. A mortality of less than one per cent. is extraordinary, if with the mildest forms of disease. There is plenty of scope for inventive geniuses in the matter of medicinal treatment for typhoid fever, for at present it may safely be said to be purely expectant.—*Medical Press*.



CURED BY THERMOMETER.

The importance attached to a clinical thermometer by those in ignorance of its office approaches a superstition. They close their lips tightly upon it. Their eyes roll wildly around the room. They believe that the tube contains some mighty gas or a metal of mysterious power. "There ain't much taste to it, dother," said one of those credulous fellows, "but I s'pose it's turrible sthrong." Dr. —, who is something of a wag, encouraged the man's faith in the occult virtues of the thing, and with remarkable results. After the first "dose," the fever abated. The "treatment" was continued, and the patient actually recovered, cured by thermometer, administered *ter in die*, without further drugging.—*Scribner's Magazine*.



HEALTH may be enjoyed; sickness must be endured: one body is the object of both, one God the Author of both.

Salt Lake Sanitarian

A MONTHLY JOURNAL OF MEDICINE AND SURGERY,

Devoted to the prevention and cure of diseases and injuries, and the promulgation of the laws of health and life.

DRS. SHIPP, EDITORS.

SALT LAKE CITY, SEPTEMBER, 1888.

EDITORIAL.

THE MIND AS TO DISEASE.

Circumstances have transpired in our life that has caused a delay in the issuing of this number of our journal, which places us under the necessity of asking the forbearance of our readers. Our surroundings are not altogether conducive to the best situation for editorial work. The condition we are in is new to us, and as a result we find the equanimity of the mind somewhat disturbed. But time inures us to changes, and after the lapse of a few days we anticipate being able to subside into a peaceful tranquility and for the future will try not to again tax the indulgence of our friends.

The state of the mind has much to do with our well-being and the condition of our health. In great and serious disturbances of the mind or feelings we are liable to have follow derangements of the functional actions of the vital organs of the body. When these are interfered with we are soon made known of the fact by our aches and pains. The great "nerve organ," the brain, is supposed to be the seat of the mind. It is from this structure that the thoughts arise. From the brain and spinal cord (which we might

consider a continuation of the brain) lines (nerves) are extended to every part of the body. On these lines sensations are constantly being received and transmitted. Even while we sleep it is the operation of this great nervous system that keeps the vital organs in motion and accomplishes that continuous change which constitutes the phenomenon of life.

In order that this may be well done, that the best condition of health may be enjoyed, it is highly necessary that the nerve machinery be not interfered with by over-work, over-stimulation or worry. Heavy strains upon the mind, particularly if they are accompanied by a sense of fear or dread, if continued for some length of time is almost sure to cause indigestion, exercise of any part of the body causes a determination of blood to that part. And if the brain be unusually brought into action a large amount of blood is drawn to it from the rest of the body. If we are in a state of rest the muscles will not feel it so much, but if we have taken food and it is in a process of digestion it makes a very material difference. The elements necessary to accomplish digestion are drawn from the blood by the nervous glands adapted to the work that are situated along the digestive track. So that when the function of digestion is going on it is favorable to have as much blood as possible drawn to the parts engaged in this work; therefore the tendency is to induce a greater supply when the presence of food in the stomach brings the glands that supply the digestive ferments into exercise. Now we set up an opposition or competition for this extra supply of blood if we bring any other

organs or parts into active exercise; hence, severe bodily exertion should not be had just after eating, and for the same reason the mind should be kept in a state of ease and tranquility, that no extra draughts may be made upon the circulation. It would be difficult to mention a greater hindrance to health than a defect that occurs in the proper preparation and assimilation of the food we eat. While there are many things that conspire to bring about this imperfect digestion, the state and condition of the mind play an important role. The child at school should lay his problems aside when he approaches the dinner table and for an hour after viands. The merchant or the banker should leave his goods upon the shelf and his dollars in the vault when he takes in a supply to keep the fires burning that evolve the forces of the human economy.

There is a condition of the mind we call worry that exerts a very unfavorable influence upon the general health. There is an old saying that "worry kills twice where hard work does once." No difference from what cause, if we indulge in constant fretting and worrying, "dreading this and fearing that," we upset the whole nervous system, and as the entire processes of life are dependent upon the action of our nerves, if we bring about such a condition we may look for disorders in all directions. If we want to live long we must go through life with a cool head; gain sufficient control over ourselves by the exercise of the will power or mind so we can reconcile our feelings to our surroundings and adapt ourselves to the situation. Let the workings of the brain be calm

and deliberate, and in this manner we prevent undue excitement of the nerve structures, which brings wear and tear that hastens to an early decay. The workings of the mind or the exertions of the "will power" has a perceptible effect in sickness and disease. We occasionally see persons succumb to an attack of disease through sheer lack of force or power to exert the mind sufficiently to rally—they sink into a state of despondency and expectancy from which they appear unable or unwilling to arouse, and thus gradually sink to a fatal termination.

To keep the mind hopeful and cheerful is an important matter with the sick patient. Let the attendants wear a cheerful appearance and avoid everything that would awaken a suspicion or distrust on the part of the sick man that all was not favorable to him. If he lose heart his condition is aggravated and his hopes of recovery lessened.

To illustrate the influence of the the mind over the body I will give you an incident or two: A lady of wealth was being doctored by a noted physician in one of our eastern cities. On his suggestion she was taking a certain brand of mineral waters, but the supply at her druggists ran out and she felt she was getting worse, so she called the doctor and laid the case before him. He recommended another brand of the "mineral waters" which he told her was equally good. She tried it but it did not answer, did her no good, so she sent for her doctor again. He called and found her no better, sure enough. A thought occurred to him, so as he left he requested the servant to send a half-dozen of the original bottles, with the

labels as little disturbed as he could get, and bring round to his office and say nothing to his mistress. These were filled with the "kind of water" she had just been taking and corked up in style and sent round for the lady to take. She was delighted with the kindness of her physician to get her supplied with the "right kind," and she was soon on the improve. But in a few days this supply was exhausted, and she again got worse and sent for the doctor. He by some persuasion prevailed upon her to give the other kind another trial, although she protested she knew it would not answer. As he left he got the servant to bring to his office some bottles of the "wrong kind" with the labels intact, these he filled with her favorite kind of water and sent round to her. But it did not answer, she continued to grow worse and sent for the doctor.

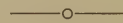
So you see, so long as she thought she had her "favorite" she improved—no difference what kind of water she drank so long as it had the right label.

Here is another incident: A young nervous, but hard-working and healthy student, was attending one of our leading medical institutions. His chums arranged to try the effect of mental impressions upon him. So one morning when he arose his room-mate remarked that he looked rather pale. But he said he felt all right. As they started down to breakfast he met some of the boys in the hall who asked him "if he weren't feeling as well as usual." He replied, "Oh, yes, I'm all right." Nothing more was said by them then. When he was leaving the dining room the waiter said to him, "Arn't you feeling well to-day?" "Yes, I'm all

O. K." "You look as though you were about sick." As he was going down the street to the lectures (by arrangement) he met some more of the boys who expressed surprise at his sickly appearance. They let him pass, however, with only a word or two. After the first lecture, the professor, who was in the experiment, stopped him and commenced inquiring concerning his health, habits, etc., remarking how badly he looked—perhaps he was studying too hard. This was enough; he turned as pale as a ghost, went home and took to his bed sick.

We constantly meet with circumstances that demonstrate the power the mind has over the body, both in a state of sickness or health. Keep a healthy mind, let the "thoughts of the heart" be ennobling, in this way the nervous system is enabled to accomplish the most to preserve these frail bodies of ours.

A healthy exercise of the various functions of the body is conducive to health. If we bring into disuse any part of the body we find it will wither or lose its force and power. So with the brain, if we allow it to be idle, if we fail to strengthen it by proper exercise, it becomes weak and of not much force. It takes on an abnormal condition that leads to suffering. We find the greatest amount of human happiness where there is a healthy, active, contented mind.



IN all contentions between wit and violence, prudence and rudeness, learning and the sword, the strong hand took it first, and the strong head possessed it last.

DIETETICS AND INFANT FEEDING.

ABSTRACT OF THE ADDRESS OF E. A. WOOD, M.D., CHAIRMAN OF THE SECTION ON DIETETICS AND DISEASES OF CHILDREN; AT THE MEETING OF THE AMERICAN MEDICAL ASSOCIATION, CINCINNATI, O., MAY 8TH-11TH, 1888.*

... Perhaps in no other class of maladies is the reliance on alimentation so apparently remedial as in the malnutrition and diseases of infancy and childhood. The mortality of children under one year of age is frightful and criminal; frightful from the large proportion of deaths, and criminal because nine-tenths are from preventable causes. It is believed that a large majority of the cases of sickness among children, especially during the summer months in cities, are caused by overheating, bad ventilation, improper food and faulty feeding, and the prevalent opinion is probably correct. But in the multiplicity of causes precision is impossible. All these causes play parts in the terrible drama, but too little is known of the exact influence of each cause separately considered. Of them all it is almost certain that improper food and overfeeding, especially in cities during the hot weather, are the two which preponderate.

There are two classes of people that need looking after; the first is the vendor of unwholesome milk. This class must be taken in charge by the strong arm of the law. Milk kept in foul vessels, watered milk, adulterated milk, and milk from wretched cows chained up all their miserable lives in

dark stables and fed on brewery slops, slay annually thousands and thousands of helpless babes in our cities. Such milk is unfit for any purpose, and it should be kept out of the market. Those who vend such milk are deliberate murderers, and they should meet with the punishment commensurate with their cowardly crime. The other class consists of the mothers and nurses, who will persist in overfeeding babes, dreading starvation, ignoring the fact that babes need water, not milk, when fretful and feverish from indigestion. The crime of this class is ignorance, and they must be educated out of their pernicious practice. Thousands of children may be saved by lessening the amount of food during the heated term.

The questions, what is the best substitute for human milk, and what is the best food for weakly and invalid children? although more frequently asked than formerly, still remain *sub judice*, or at least the solution of the questions is not generally accepted in practice. Accurate knowledge in regard to them must be given by some authoritative body.

Cows' milk sometimes slightly modified, seems to be the most rational and favored as the substitute for the mother's milk. This generally accepted belief is based partly on experience, and partly on the physiological precept that there can be no digestion of starch foods prior to dentition. But experience and precept are sometimes both upset in cases of infants who do not digest milk, but who do digest modified starch foods. In the absence of precise knowledge on the subject of infant foods and feed-

*From the reports of the *Journal of the Association and Philadelphia Medical Times*.

ing, we go on treating infantile maladies with an empiricism redeemed only by the common sense and experience of the individual practitioner. The aggregated and formulated experience of the whole profession is wanting, while tradition, united with straggling experience, serves as a fickle indicator rather than a reliable guide in the dietetics of infancy and childhood.

Among the besetting evils of Americans are rush, overwork, great plenty and variety of food, great food waste, bad cooking and badly cooked food, hurried eating, foul water supply to cities, and dram-drinking. Any one of these evils tends to the impairment of health, and all of them aggregated are sure to result in the deterioration of the race. The duties of the medical profession have so widened that it is become, to a large extent the custodian of public health. The world cannot produce such a field of useful, necessary work as lies before the profession in America—the work of arresting the decay of the American race. Can this Association, whose grand function it is to crystallize medical thought and direct medical art in this country, longer refuse to lend its authority to warn our people of the danger ahead, and to direct its powerful organization against the evils which, if not arrested, will result in disaster to our people and our nation?

Dieticians will incline to ultraism, but the principles, of dietetics cover too much ground to ever assume speciality, or build up an esoteric class of practitioners. Dietetics is too broad for the specialist. Ultraism is not always an evil nor its practice a sin. All great medical pioneers have

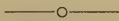
been regarded as extremists in their day. The ultraism of a generation ago is the conservatism of to-day.

And what is the ultraism of dietetics? Briefly, that digestion and nutrition constitute the all in all of animal life; that many forms of disease, as gout, rheumatism, Bright's disease, many neuroses, skin diseases, and other affections, are but manifestations of faulty digestion or malnutrition; that maladies belonging to the above class can only be successfully treated by judicious alimentation, while drugs hold a very subordinate place in their cure. This kind of ultraism will grow and deserves to grow.

There is one abuse which has crept into modern practice under the seeming sanction of dietetics, and which calls for loud protest. Allusion is had to what may be termed *vicarious digestion*. This term applies to all methods by which the digestive organs are relieved of all or a part of their work, and includes the employment of all bland and easily digested foods, malted foods, predigested foods, and food per rectum. This practice, so efficient and necessary in acute stages of disease, and in all conditions where there is suspension of digestion, is pernicious when, as it often is, too long continued, or employed in cases where the digestive act is even moderately well performed. The pabulum supplied by vicarious digestion is not, it cannot be endowed with that robust vitality belonging to the product of normal digestion, and hence can supply only a low grade of nutrition, sufficient, it is true, to bridge the system over a short interval of interrupted digestion, but lacking the

vigor to sustain a strong and active state of health. Again, if vicarious digestion is too long continued, or employed unnecessarily, paupers are made of the digestive organs. Our teeth are going because there is no longer need of that vigorous mastication peculiar to an age of crude cookery, and, if we persist in carrying vicarious digestion to the extent threatened, the stomach will lose its function and waste away toward the state of a rudimentary organ. The only way to keep the stomach strong is to force it to perform its legitimate work.

Vicarious digestion may become a habit if indulged in for too long a time; the papoid habit may become as enslaving and as destructive as the opium habit. The tissues will starve on cells that enter over the wall instead of by the appointed portals of vital action. Such nutrition does not stay, the puny cells have not received the stamp of genuineness and every emunctory is up in arms to turn the rascals out.—*The Sanitarian*.



MOTHERS' METHODS.

No. IV.

BY DR. ELLIS R. SHIPP.

A very interesting theme for the consideration of mothers is the primitive formation of the body—the elements and special constituents brought into requisition for its ultimate development. How many mothers understand the wonderful distribution of their own life current through all the various and arterial vessels constructed directly for that purpose, conveying

this medium of subsistence through the intricate windings of the circulation throughout their own bodies and thence to those of their offspring. Many do not know that all the delicate, aye, and the magnificent structures of the lovely babe are organized and formed from maternal blood. Can we wonder at the sacred, tender tie existing between mother and child, at the all-absorbing passion of "mother's love." She loves her child as part and portion of herself, and why should she not, has she not given her own heart's blood that he might be? Ah! 'tis a beautiful thought! But alas, the poetical idea is somewhat marred when we contemplate the character and condition—that exists in many cases—of that liquid substance designed especially for the construction and nutrition of, at first the human embryo and afterward the nursing infant.

The mammary glands have the property of secreting material from the blood which produces or constitutes the secretion of milk, the quality and quantity of this material supply depends directly upon the character of the blood, and that of the blood upon the food ingested and digested and we find that mental and moral influences produce very palpable effects also.

If the blood of the mother as well as her milk could always be examined microscopically how oft would the mother hesitate ere she pressed the baby's lips to the gushing fountain! Mothers are sometimes obliged to perform the most excessive and injudicious exercise, or perhaps have been unduly excited, thus causing a rapid increase of the circulation thereby diminishing the oxygen in the blood, and increasing the carbonic acid gas—

the former a vital life-giving principle, the latter a poisonous and destructive element. Let us consider the condition of the embryo from its earliest formation and we find it constantly influenced by the physical status of the mother, and its development physically and may we not say mentally, depends directly upon the source from whence it derives the material for the constructing and building-up process, *the blood of the mother*. Now we have the idea that all the various tissues of the body, bone, muscle, skin, with all the internal vital organs, and the thinking brain, are formed and kept alive by the blood. How wonderful ! but from whence cometh the blood and where does it obtain its life-giving properties? From the food that is day by day taken into the system, digested absorbed, converted into blood and carried to every part and portion of the body. If the most minute part fails to receive this supply it very soon dwindles and dies. This can be demonstrated by tying a ligature tight around the finger, or any part of the body, thereby cutting off the circulation; very soon the part dies which is evidenced by gangrene and sloughing of the parts deprived of blood. We have also a similar example in the vegetable kingdom by the clinging vines wrapping themselves so tightly around the forest oak as to eventually impede the circulation, or distribution of the sap to that extent that ultimate destruction of the entire tree is the result. There are certain poisonous substances swallowed by the mother that have been found in the mother's milk in less than fifteen minutes afterward so rapidly does this absorption take place, and we must remember that it passes

through the blood before it reaches the milk.

The mother that thinks she can drink her cup of tea, coffee or beer, or stronger beverage without instilling or cultivating an appetite in her child for the same, will find herself woefully mistaken, and will in many instances see to her sorrow a practical demonstration of this truth in the ruin and degradation of the treasure of her heart and the pride of the household. Many mothers have an idea that it would be utterly impossible for them to supply the requisite nourishment for their babies without their accustomed stimulating beverage—tea, coffee or perchance a mug of beer. Yes, just think of the helpless darlings being fed upon distilled malt which even after undergoing a species of secondary distillation, as it were, is just as injurious to the delicate, nervous center of the little one, as a draught of strong brandy would be to the father or mother of the child. Very many young, misguided mothers are really conscientious in the belief that either tea, coffee or beer are essential factors in producing a sufficient amount of milk, and why should they not so think? It is what their mothers and friends have always used before them for this purpose, so they very naturally think (if they do think) it is all right. and accept the idea as a matter of course.

They thus blindly follow in the footsteps of their foremothers. But they will argue that they feel so good afterwards, and these drinks make so much milk. Yes, that is true, but how do you feel when the reaction takes place, and what kind of milk results? One may say if a certain

thing has a stimulating and exhilarating effect why not prevent the effects wearing off by repeating the process, thus keeping up a continuous effect? But, gentle mother, do you know that you are maintaining your existence and that of your offspring upon unnatural stimuli and that these invigorating influences are very dearly purchased. Some argue that they grow fat upon them, especially beer. That may be, but what is the character of that increase in weight? It is a peculiar swollen or bloated condition of the tissues, there is indeed an increase of adipose tissue, but this is rather a detriment than otherwise and does not in any manner increase the strength or vitality of the body. The mother is injured by the indulgence, but unfortunately the mischief does not end here, the innocent babe at its mother's breast is also subjected to these deleterious influences. As a people we had much teaching on the subject of the "Word of Wisdom," and we find words of revelation to the effect that tea and coffee are not good for us. It is, however, from a physiological stand-point we would have our readers view this subject. Anything that stimulates for the time and leaves the system weaker than before can only be injurious; again, anything that causes us to become habituated to its use so that we feel miserable when deprived of it, is detrimental to the health of both mind and body. What a fearful thing to be a slave to the physical tastes and appetites—to be controlled by them instead of having, as we should, every physical want and inclination under complete control of the will power! If mothers cannot possess a perfect mastery of their own

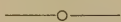
tastes and appetites, how can they expect to maintain the physical, mental and moral control of their children, which is undeniably the mother's province?

For this one reason if for no other, mothers should be temperate in all their manners of living. Eating, drinking, sleeping and exercise should all be conducted on strictly hygienic principles. If the child never saw his mother indulge in excesses in eating or drinking; if he never saw her taste tea or coffee nor any other stimulant, it would be very seldom if ever he would form such habits.

Mothers, only think of the misery and sin you might thus prevent by just a little self-sacrifice on your part. And after once the desire is thoroughly controlled such things are no temptation whatever, and how potent and satisfactory is the recompense on realizing that through self-control and temperate living she has bequeathed to her child the same noble attributes of will power, and in addition, a healthy constitution, unpolluted by stimulating properties.

We should observe a wise regimen in eating, have our meals regular and no eating between times. Food well prepared, palatable, easily digested and nutritious. Fat meat, such as pork, pastries, rich soups and gravies should be excluded from the mother's bill of fare. Give instead good, wholesome bread, (Graham is the best for nursing mothers) abundance of vegetables, fruit, milk, eggs, fish and beef, the latter the most nutritious and best meat we have when cooked properly—broiled on the hot coals. Unfortunately many poor families cannot choose their diet, price enters very

largely into the calculation; but at the same time much improvement may be made even among the poorest people. All that is needed is more knowledge and an inclination to put it into practice. As a rule, mothers will do more for their children than for themselves, and let them once understand that the health, and indeed the whole future destiny of their children depends almost solely upon the kind of life the mother herself leads, and we will very soon have wrought a grand reformation, which will be demonstrated in the more perfect development of the generations yet unborn.



THE SKIN—CONSTRUCTION AND CARE.

BY DR. MAGGIE C. SHIPP.

If we appeal to the reason and show the why and wherefore, our efforts are far more sure to be crowned with success, for we are living in an enlightened age, and intelligent beings must know “why” they should perform any act. Let us have a short chat to-day on the construction and care of the covering of our bodies—the skin.

Throughout the skin are scattered what are called perspiratory glands. Each gland has a slender tube about 1-400th of an inch in diameter, which works its way nearly through the entire thickness of the skin. According to Krause the number of respiratory glands is about 2,300,000, and the length of each tube when straightened is about 1-15th of an inch, which would make the entire length of the tubing about two and a half miles. The perspiration is the fluid from these glands. When the body is in a

healthy condition this is a constant secretion, but is carried off immediately by evaporation, so is not noticeable on the skin. Lavoisier says that nearly two pounds of this fluid passes from the skin in twenty-four hours.

When the temperature is high, or after muscular exertion, there will be a greater circulation through the skin, causing a larger amount of fluid to escape. So much cannot be carried off by evaporation so it remains upon the skin, can be seen and felt, and is called perspiration. Dr. S. Smith says that persons working in heated gas works have been known to lose by the skin and exhalation by the lungs three and a half pounds weight in less than an hour.

Many of our midwives are surprised when a babe is born to see the amount of “white stuff” on the babe’s body, and wonder why it is there. After the sixth month in foetal life the sebaceous matter from the glands accumulates upon the skin, forming a whitish, half-solid, oily covering, which we call *vernix caseosa*. It is a mistake to think that respiration is confined to the lungs, for by experiment carbonic acid has been found in the urine and perspiration. We all understand that our bodies are being constantly built up and are constantly wearing out. This broken-down, useless material has to escape from the body, and quite a portion makes its exit through the skin. How very essential it must be, then, that these tubes of the skin should be kept open and in good working order! It is so important that sickness or even death may ensue if it be not so.

Now, what can we do to avoid these results from this cause? By giving

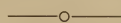
the skin its proper attention. The organs of the body are often very kind, and many-times when one fails to do its work another is very accommodating and will labor for it. The skin and kidneys often perform their work in this vicarious manner. Mothers will notice that if they fail to bathe the little one he is more apt to "wet the bed," or if the kidneys are not acting as they should we may have profuse perspiration.

How essential is the bath! One of the luxuries that even the poorest may indulge in, but, alas, like many of the easily gained luxuries—*not appreciated*. It is not only essential to health, but I think that it has a refining influence, causing men to feel brighter, more active, and assists in making a better man of him. I find that very few understand how to bathe. You meet intelligent persons arise from the dinner table after partaking of a hearty meal and walk directly to the bathroom. This should never be done, nor should we bathe immediately before eating. A good author says that eleven o'clock is the best hour for the bath. Be sure and rub the body well after bathing—*rub till the skin is red*. Let this be done quickly and you will start up a reaction and you will not take cold. We hear so much of the cold bath, I think it is not good to cause a shock to the system, nor would I advise the water very warm, unless it be just before retiring.

These 2,300,000 "pores" not only perform the work of secretion, but substances placed upon the skin (and especially if rubbing be added) will pass through the skin into the body. Many drugs are introduced in this manner, and this is an especial good

way to nourish the body. In the treatment of our little ones when they are sick so much can be accomplished towards assisting nature by external treatment. Give the little one an *oil bath* frequently (use our olive oil which so few of us appreciate), this will pass through and assist nutrition, it is also a powerful means of allaying fever.

If Lavoisier is right and two pounds of this fluid is passing from our skin in twenty-four hours, how often we should change the garments *next* to the skin. Our thoughts are generally upon the outer garments, because they are *seen*. Let us also change the sheets upon our beds frequently, and allow the sun to shine upon our bedding and the purifying breezes from heaven free access to every corner of our bedrooms.

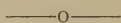


A BOOK FOR MEDICINE.

Eminent neurologists have not scorned the medicinal benefit that lies hidden away in the leaves of a good book; but how few of our busy practitioners give much thought to the effects of literature? It is often urged that they haven't much time to give to it themselves, and that they are rarely in a position to prescribe books, not knowing, so to speak, their physiological action. This is to be regretted, but it is not such an insuperable barrier as many suppose. Just as we are compelled, from the pressure of duties, to get "assistants" in this, that, and the other branch of work, we may get assistants in literature. The trouble is that the value of this subject is hardly understood. While the influ-

ence of literature, according to the thundering oratory of the ultra-good, is counted as a tremendous factor in the growth of sin, very little is said to its account on the side of good. This is unfair, for we contend that the much-mooted novel may be made as strong an agent on one side as it is upon the other. Dr. William A. Hammond, who is the author of some capital novels himself, is in the habit of perscribing certain books for his neurotic patients; and we understand that he goes over the papers every day to see what plays are running and which will suit special patients of his. It is a great specialist who does not despise such resources, and, with due respect for all native talent, we are inclined to believe that many a great specialist has attained greatness by not despising the little things which in themselves seem to have no bearing upon medicine.

What is "hypnotic suggestion," the wizard-remedy of France, which we are compelled, in the face of its great achievements, to accept as we do many other empirical facts?



SCHOOL IN OBSTETRICS.

We wish to announce that we have just closed our summer class in midwifery, the ladies all passing very creditable examinations, have received their certificates and returned to their homes, and we trust to lives of usefulness and profit both to themselves and the communities in which they may dwell.

Our next term begins on the 15th of the present month, and our sisters

are earnestly requested in all parts of the territory and elsewhere to take this matter into serious consideration. No one can gainsay the importance of this subject—the positive need of skilled attention for women; that many precious lives are year by year being sacrificed for the want of proper attention, is a fact so palpable that it requires no comment.

Then sisters we would suggest to those of you who have a desire to make yourselves useful—who wish to prove benefactors to your own sex—to interest yourselves in the study of the laws of life and health, qualify yourselves for competent nurses and obstetricians, thereby bringing health, comfort and joy to thousands of your suffering sisters, and at the same time securing to yourselves that perfect satisfaction that is sure to come from duty well done.

Drs. E. R. and M. C. Shipp have united their efforts in making this school the very best of its kind in the west and respectfully request the ladies to take into consideration the following: Medical knowledge as a means of prolonging and saving life. Ladies wishing to qualify themselves as competent accouchers and nurses, with the object of enhancing their usefulness, will find this school possessing every facility for instructing minutely and thoroughly upon these most important branches. Medical knowledge as one of the fine arts. Ladies desiring to pursue this branch of science as a part of a liberal education, for their own individual benefit and satisfaction, will find the instruction in the Drs. Shipp's school both fascinating and explicit, as well as practical and easy of comprehension.

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EDUCATION IN RELATION TO HEALTH.

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In discussing such a practical matter as education, we may consider the brain and mind as a copartnership in which the two members of the firm must be mutually affected. In this aspect of the matter, we may say the organ and the mind are correlatives.

It may also be granted that a healthy brain is needed to do normal mental work. When there is a feeble brain there is also a feeble mind. Vigor and robustness are needed in both. Scope and intensity and harmony must be among the capacities of this duality. As well expect to bring out of a Jew's harp the melody and harmony of an organ as to attempt to evolve from a flabby and sluggish brain the ideation and mental combinations of a healthy and natural man. The unstrung lyre cannot produce sweet sounds, even if struck by the hand of genius. So mind phenomena can only be produced according to the tone, scope and health of the organ. A good instrument, in tune and used moderately, will fulfill its function of music producing.

The brain is a wonderful organ in its construction and adaptation. It is

the least organized organ in the body, hence its capacity for many-sided work. At the same time it has to be tenderly dealt with, as its powers of restoration are low. Its ordinary work is enormous, seeing that one-fifth of all the blood in the body is needed to keep up its vitality. It is only a meshwork of tubes and cells, among which blood vessels spread everywhere. The cells are in every head by the millions, and every emotion, thought and volition means the work and death of hundreds of these cells. Nature has immediately to fill their places through its blood-supply, or if not we have insanity or death. In the battle of life each cluster of cells is a phalanx, and as Scott describes the serried ranks at Flodden so are they:

" Each stepping where his comrade stood,
The instant that he fell."

It will then be seen that if we call upon the reserves in our daily struggles we can have no conserving forces to fill the breaches caused by the dead which are constantly being carried off in the ambulances of nature. As I have said, the brain is simple in construction because of its many and divers functions. An organ with a specific work to perform is complicated because of this specialty. It is built up with an object in view, and all its arrangements focalize to one result.

This is true of the liver, kidneys and digestive apparatus. The clock is arranged to do one thing—namely, measure time. The steam engine is made to generate power and apply it by steam. They are good for nothing else, as they were made for those specific purposes. The boy's pocket knife, the crowbar, the hoe and the shovel are useful in many ways, because they are simple in their manufacture and general in their uses. It will be seen then how necessary it is to have the organ of the mind a simple instrument to do its multifarious work. Sensation, ideality, volition, memory, imagination, emotion, affection, desire, passion and all the forms of automatic physical life are only part of the phenomena manifested by nerve operations. Were it complex in its functions, its range of possibilities must necessarily be circumscribed. This fact is proved by analogy in the same body which contains the brain. The proper building up of a brain in all its functions and the aids to giving it abiding power are based on the same physiological law as that of training a race horse or an athlete. It means not only development, but also endurance, especially by training in certain natural lines of production. It is not to be inferred from this that certain faculties are to be cultivated to the exclusion of others. This is done in the prize-giving stimulation of schools and colleges. This system gives rewards to those who excel in one branch of study with a minimum of knowledge or capacity in any other. This leads to one-sidedness, while the rewards (if any) should be given to the best all round scholars, not ignoring natural aptitudes nor

mental leanings towards certain lines of thought.

This would lead to moderate and multiform development, having regard to our diversities and idiosyncrasies. Education and instruction are different. The former means development of body and mind, while the latter means simply a mere knowledge of facts. A child may be full of facts and its education not begun. The neglect to consider this important physical law is leading to the generation of many of the nervous evils which now afflict the civilized races. At no time in the history of the world has education been more diffused among the common people, and at no period have nervousness, excitability, brain exhaustion and insanity been so prevalent.

It is well to consider, if there exists any connection, and if so, how much, between national nervousness and forced education, between juvenile brain tension and adult brain debility. It may be we are discounting the future by forcing mental growth in the young beyond the natural capacity.

These are two entities that whose relation seems to be largely forgotten in education. The architect of fate needs proper tools to do his work with. Education means the preparing and sorting these tools for the builder.

This mind organ is delicate, simple and easily impressed. It can be operated upon, or it can be used as an instrument to evolve all mind action. In other words, it may receive impressions, or it may inherently manifest mental power. It may merely be filled with easily acquired knowledge, which may be the work of others, or it may give out its own energizing

creations. In the former class of impressions it is only receptive, which is merely an appeal to memory; in the latter is exercised in mental dynamics, and brings into being new ideas and native conceptions. To imbibe as a sponge gives no energy and no strength, but to grow as a tree gives power by virtue of the exercise of its increasing activity. Not only so, but this energizing entity increases the volume and stability of the organ, as physical exercise increases muscular tone and fibre. Inertia means debility, for

"Labor is life.

"Tis the still water faileth."

On the other hand, early precocity mostly means adult enfeeblement. It is taxing the future by unduly straining the brain, from which it seldom recovers, and as a result we have a languid organ and a stunted intellect.

Those who educate scout this idea, because their handiwork is best seen in forced effort and juvenile automatic memorizing. These prodigies of learning astonish trustees and parents and redound to the teacher's credit. Those who teach believe that there is an unlimited capacity for thinking in all directions in every person. All the mental powers are pushed on all sides without respect to weak points. As a result, the reserves of nature are called upon at the expense of growth, brain nutrition and the building-up processes. All minds put forth energies in one direction more than another. Here our individual differences come in. None of us are formed in the same mental mould. Even our potentialities vary, but are interdependent upon one another.

They have a community of interests and draw resources from one another. This being the case, it is evident that the pushing forward of all the faculties at once, irrespective of natural bias and aptitudes, means a dwarfage of individual leaning because of the dissipation of reserve energies. Let me repeat. The educator looks at the mind development alone as evidence of his skill and assiduity. The physician looks upon both body and mind as objects of care, and endeavors to keep both under healthful conditions. The educator thinks that the mind in each individual has possibilities and potentialities almost unlimited if pushed to the test. The physician knows that each person has powers of growth and development beyond which such cannot go, by any amount of mental training. No forcing can go beyond the brain capacity, and that at its weakest point. This is especially true, when hereditary tendencies are taken into account. We have at our disposal only a certain amount of energy. It is transferable to some extent, and if used in one direction, it is lost in another. This law is seen in operation in animal life as well as in mind phenomena. Exhausted muscular force means to some extent mental loss, violent emotion or sudden physical shock means in some degree muscular and organic enfeeblement. To a large extent this duality correlates with one another. This being the case, it is evident that undue forcing in any one direction affects the whole organism. The harmony of nature is disturbed by an unnatural distribution of energy. Another physiological axiom is that all bodily and mental energy needs a natural time to be utilized most effec-

tively. Forcing always means great waste. To run a mile is more exhausting than to walk five miles. To do in an hour what should take ten hours, if continued, would mean utter prostration. To do in five years what should take ten years is equally disastrous to nerve power and mental health.

Many come out unscathed from this ordeal of overpressure, but if there are natural weaknesses, then is this rattling pace utter ruin to the racer. It means the consumption of stored-up power, which nature keeps on hand only for emergencies. Nature is a banker with wealth in store, but if left to itself it never draws upon the principal, as that means in the future less interest, and if continued must end in bankruptcy.

The London *Lancet* of September 20th, 1884, says:

"Life is played out before its meridian is reached, or the burden of responsibility is thrust upon the consciousness at a period when the mind cannot in the nature of things be competent to cope with its weight and attendant difficulties. All this has been said before. There is not a new word or a new thought in it, and yet it is a very terrible and pressing subject. We cannot give it the go-by. 'Forced' education commenced too early in life and pressed on too fast is helping to make existence increasingly difficult. We are running the two-year colts in a crippling race, and ruining the stock. The underlying cause is impatience—social, domestic and personal—of the period of preparation, which nature has ordained to stand on the threshold of life, but which the haste of 'progress' treats as delay. It is not delay, but development, albeit this is a lesson which rash energy has yet to learn from sober science."

In mental training two objects should be kept in view. The one is to store the mind with the knowledge garnered by others, and the other is to strengthen the mind and to enable it to evolve out of its knowledge new ideas which are the products of its own efforts. The earth absorbs and nothing more, but the plant both absorbs and assimilates and builds up. So it is with two classes of mind. We all have plenty of facts, but the discoverer has always found out additional ones in his own mental research; hence his advantage over the mere copyist. He has crammed some, but he has evolved more. He has not merely memorized, he has also judged. The good memory is the means of carrying off all the prizes at competitive examinations, yet the best average mind will eclipse such in life's struggles for the mastery. There are, no doubt, a great many of our educated people who depend largely on remembered learning, and that many self-made men are distinguished by virtue of inherent power to originate. The great are not mere receptive machines; they put their talents out to usury; they are not merely recording instruments, but add to the common stock of knowledge by exploring new fields and by giving their experiences and discoveries to the world. Were it not for these pioneers we would still be floundering in the slough of barbarism.

It is self-evident to merely cultivate memory is one thing, to evolve thinking is quite another. Cramming means mere remembrance, and may be indulged in with no more originality than are the chatterings of a parrot. This system carried to extremes

gives mental dyspepsia, because there is not sufficient intellectual energy to assimilate the pabulum provided. Memory has its function, but to put mere recollection in the place of education is to dwarf all originality of thought for want of mental development. Each epoch of life should be left to do its own duties. The child, the youth and the matured have laid out by nature unmistakable boundaries, which precocity should not be allowed to prematurely overstep. This encroachment is the bane of our present system of domestic and educational life. It is the popular fashion to endeavor to make, by forcing, men and women of mere children long before they reach the adolescent age. This hot-house, mushroom growth means early decrepitude and decay of both body and mind. This law of growth is operating in all animated nature. The slowly growing tree is the hardiest. It takes deepest root, it has the toughest fibres, it grows heavenward the farthest, and in robustness defies the storms of centuries. There is in all beings, possessing vital life, a certain proportion between the time a living creature comes to maturity and that of its natural decay. Some insects have a lifetime of birth, youth, maturity and death in a day. The hen is old when the dog is young, the dog is old when the parrot is young, the parrot is old when the eagle is young, and the eagle is old when the elephant is young. Each according to its kind has a graduated scale of proportions in the different eras of life. Man is no exception to this rule. We may say a woman is fully matured at twenty-two years of age, and a man at twenty-five years. This general law of pro-

portionate periods is seen in the brain. In this wonderful organ this physical law is in force, but not in the same periods as in other parts of our bodies. The brain comes to maturity on an average five years later than the body elsewhere, and therefore this mental instrument is comparatively younger than the other parts of the body, and, as a consequence, more tender and susceptible in youth than is the muscular system. The full-limbed and chubby-faced baby who squalls and kicks with vigor and eats enormously, as it performs gymnastics on its mother's lap, is the picture of physical health, but its feeble and semi-fluid brain grows slowly, as it is needed but little at this stage of automatic life. The brain gets behind in the race of life until the muscular system develops somewhat and thinking is needed for self-preservation. This conservation of brain force is a wise provision, when taken in conjunction with comparative growth and decay. It enables us to possess vigorous brains and strong minds, long after our knees are becoming weak; our hands showing signs of shakiness; our shoulders having a stoop in them, and we begin to gravitate bodily toward the earth from whence we sprang. As age creeps on, waste is getting the better of repair. In youth, there is not only a holding of the fort, but also an extension of its defences, hence the greater demand for building up material. The boy has to grow. Mental overstrain in youth and manhood is becoming a peril to the more civilized races. This malign influence of undue mind friction, and which begins in our schools, will have its full fruition in national deterioration and decay. Vice, lust

and moral corruption are largely found among the mentally defective classes. The nervous, over-strung, over-tense brain in one generation means low mentally or ill-balanced minds in the next. This is nature's inexorable law. The only hope there is lies in the fact that the weakest goes to the wall. "The survival of the fittest" is no Utopian dream, nor scientists' unfounded dogma.

A fierce fight is kept up all along the line, and when the enemy breaks through there are no reserves to repel the attack, hence irretrievable ruin.

It is not well to run a machine up to its fullest tension; nor is it prudent to make a bridge with an arch only strong enough to support itself. The application is evident in reference to brain work and staying power.

To be a good, strong human animal, as well as a muscular Christian, is the substratal condition of national greatness and goodness.

In the palmy days of the Jews, the Grecians, the Macedonians and Romans there were few weaklings. There was no mental cramming and few mind dethronements. There was little sentimentality about any class or condition when the interests of the state were paramount, and when the effeminate perished in the personal encounters of a rude warfare. The vigorous brain and powerful body were the most likely to survive, so by this sifting process a race of conquerors was produced. All the nations of antiquity fell in succession before more hardy foemen, but only when effeminacy and brain weakness had snapped the prowess of those conquered races. They were rotten at the core. Our day of decadence is

surely coming through similar influences. We hide our defectives, our demented and our pauper infirm in havens of refuge out of our sight. Had we not these retreats and all our mentally and physically afflicted were allowed to drift about in the community as in former times, these ever-present evils and evidences of national depreciation would frighten us. We would study more than we do the laws of health, and how best to develop and maintain moral, intellectual and national supremacy.

Look at our ever-increasing demand for hospitals, asylums for insane and imbeciles, schools for feeble-minded, retreats for nervous complaints, almshouses for human wrecks, prisons for chronic and congenital vagabonds, and then say if a vicious system of sanitation, of customs, of habits and of education has not something to do with this state of things. This is not the Jeremiad of the pessimist; rather it is the story of a danger signal to which we would do well to take heed.

The great restorer of brain power is profound sleep, and plenty of it to the school-going child. It stores the vital battery with mental energy. The child wants a dreamless forgetfulness to fully recuperate from its daily exhaustion. This is a physiological axiom.

It is also forgotten that much depends, on the kind of exercise a scholar takes. Work of some kind is better than none, but it is not invigorating like play or some kind of amusement or enjoyment. These are mental tonics which have no equivalents. The boy will soon tire or weary sawing wood or weeding flower-beds;

but let him play fox and hounds, or football, and his energy is almost tireless. The girl sees no pleasure in practicing on a piano at her lessons, or washing dishes in the kitchen, but let her dance from evening to morning, or roam the woods at a picnic, or go a boating, and her endurance is a matter of astonishment. Pleasure goes with the exercise, thus it is nature's stimulant and invigorator. When such boys and girls are approaching adolescence it is well to find out their natural bent of mind, and having done so, to lead the superabundant energy in the direction of well-liked and well-directed technical, professional or mechanical pursuits. This is the critical time when a proper choice of occupation may mean pleasure in its pursuit, or a life-long drudgery in unnatural or unpalatable employment. Brain work is needful and healthful. It is a law of nature that activity is necessary to health, but it must be exercised in accordance with the laws of health. The twenty-horse engine must not be run with twenty-five horse power. This is violating rightful conditions. Over-pressure, undue anxiety, violent passion, worry without needful rest and fresh air, always mean a premature wearing out of the machine. A brain under such disadvantages will not live out half its days. To appreciate our danger in this respect let us look at our school studies. In some of the more advanced classes we find that from fifteen to eighteen studies are required in five days of every week, not to speak of Sunday schools. Take school hours, and add to them, say two hours of evening or morning study, and we have for close mental application as

many hours as are needed to do the daily work of a robust adult mechanic. To state this is to show the folly of our system of education, when exercised on the young and tender brains of the coming race. We forget that it is better to know everything of something than little of everything. The disgust for studies in adult years arises largely from our school work being forced upon us in nauseating doses, and also the choice of such as is uncongenial to our taste. Were I to formulate the prominent natural features of the mind which need education, I would say: Quality (tone), quantity (power), tension (endurance), variety (scope), control (habit). These are given to us as a legacy, and to no two alike, but proper training increases them to a wonderful degree, if guided with wisdom and discretion.

Education should be conducted somewhat as follows:

1. No teaching beyond object lessons up to six years of age.
2. Object lessons with reading and writing up to nine years of age.
3. Reading, writing, arithmetic in its four primary divisions and geography up to twelve years of age.
4. The preceding with history and primary arithmetic and grammar up to fifteen years.
5. From this age such studies as will assist the girl in feminine duties, and the boy to some definite employment or profession.
6. No studies in the evening until after fifteen years of age.
7. Three hours daily of school time up to nine years of age, four hours to twelve, and six hours until fifteen years of age.
8. After fifteen years of age studies

to be intermingled with congenial and useful mechanical work. This to apply to both sexes.—*From the Journal of Insanity.*

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BRAIN WORK—ESSENTIALS FOR ITS DEVELOPMENT AND HEALTH.

There is such a thing as mind-strengthening work. In truth it is, as every physiologist knows, only by work that minds, or more correctly speaking brains, can be strengthened in their growth and naturally developed. The exercise of these centres of the nervous system with whose function what we call consciousness and intellect are associated is as essential to their nutrition as activity is to the healthy growth of any other part of the organism, whether nervous or muscular. Every part of the living body is developed and enjoys vitality by the law which makes the appropriation of food dependent upon and commensurate with the amount of work it does. It feeds in proportion as it works, as truly as it works in proportion as it feeds. This canon of organic life is the foundation of those estimates which physiologists form when they compute the value of food in measures of weight-lifting power. It is, however, necessary to recognize, that although these propositions are true in the abstract, they need the introduction of a new integer or combining power before any sum of results can be worked out.

We know that food is practically just as truly outside the body after it has been eaten, digested and even taken into the blood current as it is

when it lies on the table. Nutrition is a tissue function, and its performance depends on the appetite and feeding power—which is something different from the organic *need*—of the tissue with which the nutrient fluid is brought into contact. Again, any particular part of the organism may be so exhausted by work that it has not power enough left to feed. It is a matter of the highest practical moment that this fact should be recognized. There is undoubtedly a point at which work ceases to be strengthening and becomes exhausting—self-exhausting and self-destructive so far as the particular issue in activity is concerned.

Work may be carried too far—in fact, to such a point that not only the last reserve of power for action, but the ultimate unit, so to say, of the force of nutrition, which is, as we now believe, identical with the force of general activity, may be expended in work, and the organism left so utterly powerless that its exhausted tissues can no longer appropriate the food supplied or placed within their normal reach. We have said that it is necessary that this should be understood. It has a special bearing on the question of brain work in childhood and adolescence.

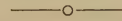
Just as extreme weakness and faintness of the body as a whole produce restlessness and loss of control, so extreme exhaustion of the brain produces mental agitation and loss of healthy self-consciousness. This is how and why the “over-worked” become deranged. One of the earliest indications or symptoms of brain exhaustion is irritability; then comes sleeplessness of the sort which seems

to consist in inability to cease thinking either of a particular subject or things in general; next, the mental unrestful or uncontrollable thought gets the better of the will, even during the ordinary hours of wakefulness and activity, which is a step further toward the verge of insanity than the mere persistence of thought at the hour of sleep—this way lies madness; and, finally, the thinking faculty, or, as we say, the imagination gets the better of the will and asserts supremacy for its phantoms, those of sight or hearing being the most turbulent or dominant which happen to be the most commonly used in intellectual work, and therefore most developed by the individual cerebrum—this is madness. Such is the story of overwork of the brain or mind, and it is easy to see that at any stage of the progress from bad to worse the will may be overpowered and the judgment perverted in such manner as to impel the victim of this mind trouble to seek refuge in death or to so disorder his consciousness that he supposes himself to be acting in obedience to some just and worthy behest when he commits an act of self-destruction or does something in the doing of which he accidentally dies. Such, in the main, is the story of suicide from overwork.

What, then, can be the excuse pleadable by those who heap on the brains of the young or adolescent such burdens of mind, labor and worry as exhaust their very faculties of self-help and leave them a prey to the vagaries of a starved brain? We pity the suffering of those ship-wrecked sailors who, after exposure in an open boat, perhaps without food for hours

or days, “go mad,” and, raving of feast and pleasures, the antitheses of their actual experience, fall on each other or throw themselves overboard. Have we no pity for *brains* dying of lack of food because we have compelled them to expend their very last unit of force in work, and now they are distraught in the act of dying?

It may be a sublime ideal, that of a highly educated people; but if it should happen that the realization of this beautiful dream of our philosophic reformers can only be achieved by the slaughter of the weak, it will scarcely console the national conscience to reflect that, after all, “the survival of the fittest” is the law of nature.—*The Lancet*.



PNEUMONIA OR LUNG FEVER, SOMETIMES CALLED WIN- TER FROST.

BY DR. BROWN.

Pneumonia is a disease in which the lungs are seriously involved. It is characterized by fever which runs very high, attended with cough and the characteristic rusty sputum the expectoration having this rusty or reddish appearance. There are two kinds of this disease called croupous and catarrhal. The croupous usually affects but one lung, the lower right lobe in some cases the upper part of the lung, very rarely both lungs are attacked. This form of pneumonia is a self limited disease and runs its course in a few days, passing through its various stops in a regular order.

The catarrhal form invades both lungs, is not a self limited disease as the other and has no fixed duration or

time to run its course. Pneumonia is very frequently a complication with other diseases. Particularly is it apt to follow or accompany measles or scarlet fever and is often a complication in typhoid fever. Cases of whooping cough are sometimes aggravated by the presence of pneumonic trouble.

We have this form of sickness more frequently in cold weather or winter time. The atmospheric changes causing the greater liability to take cold and have it settle upon the lungs occurs at this time of the year.

Persons tainted with gout or rheumatism are more prone to an attack of this lung trouble. The work in the canyons, on water ditches and canals, building dams and the great variety of exposures endured by those whose occupations take them out doors in the inclement season are assignable causes. The male portion of the community are the ones that suffer from this disease. Those who are addicted to the intemperate use of alcoholic stimulants are very likely in severe sickness to be troubled with pneumonia complications. Such persons if they are prostrated by severe sickness of any kind are most sure of an attack of pneumonia, in which case the usual rule is that it leads to a fatal termination. The fatality of this disease is very great, the young, the feeble and the aged alike falling victims to its ravages. A typical case of the croupous form of this complaint passes through three stages. In the first, the lungs, or the parts affected, are in a state of engorgement. In the second stage exudation takes place called "red hepatization." The third state is termed resolution.

An attack of pneumonia usually sets in by a severe and prolonged chill.

If it is a child it may be thrown into a convulsion. The onset is followed by a rapid elevation of the temperature or high fever, reaching 103° or 106° F. The pulse will be strong or full and rapid, attended by a dull or acute pain. The difficulty of breathing is very noticeable. The pain is aggravated by pressure, breathing or coughing. This fact sometimes leads to the impression that the patient is suffering from pleurisy. The breathing becomes very short and rapid, the number of inspirations reaching 40 or 50 per minute or even more rapid. If the patient undertakes to talk he does so with a catching breath or interrupted speech. The cough at first is short and tight, and has a ringing or harsh sound. As the disease advances the cough is followed by a rusty colored expectoration, at first rather scanty but as progress is made it becomes more copious and assumes more of a yellowish appearance and rather offensive. The nervous symptoms are prominent. Severe headache is one of the concomitants. The patient is unable to sleep and restless, and in some cases there is delirium. However, in those who are addicted to hard drinking, delirium and ravings may be expected. The stomach is all upset and the urine is very scanty and high colored. These conditions continue more or less pronounced until perhaps the fifth day if it should prove a short attack. It is rather remarkable in this disease that it should change for the better on the *fifth, seventh, ninth or eleventh* day. It is so common that it becomes the rule. It is so certain that young doctors sometimes avail themselves of this occasion to make a little "reputation" for themselves by prog-

nosticating upon the sure effect of the medicines prescribed, and the knowledge of the business they possess, by telling the friends that to-morrow or the day after, as the case may be, they can depend upon a favorable change. Sure enough the time arrives and brings with it the predicted result. When this crisis occurs within the twenty-four hours, convalescence sets in which is followed by a rapid recovery. Of course we are now speaking of a typical type of the disease. Like all other diseases we have some variations—some of the symptoms very slight or may be absent altogether. But there will be present a sufficient number to enable us to determine with sufficient accuracy that we need make no mistake in our mode of treatment and nursing of the patient.

If the pneumonia is of the catarrhal type we will have some variation in the symptoms. This form of the disease is prescribed by catarrhal bronchitis usually. Its onset is announced by a rise of temperature or fever, the breathing is very rapid and laborious. The drawing in of the breath is short and imperfect, while the expulsion of the air from the lungs is noisy and prolonged, the pulse is quick and the cough that was loose before the pneumonia set in, now becomes dry hacking and painful, soon followed by profuse purulent expectoration. The appetite is poor, bowels inclined to be loose, urine scanty and high colored, while the skin is covered with profuse sweating. Sometimes this disease proves fatal, in a few days running a rapid course. Particularly is this the case with feeble children whose strength has been wasted away by a preceding malady. In the catarrhal variety, if

the patient recover it is by lysis, as it is called, wherein it takes a longer time, perhaps weeks to get well, whereas in the croupous type convalescence is sooner established and the patient is about in a few days.

When we come to speak of the treatment we can safely say that as in all other serious diseases the kind of nursing is the great *desideratum*. It is an important fact that the graver and more dangerous the disease, the greater necessity that the right kind of nursing and attention should be given the patient; that is, there is more depending upon it, than any special application of "medicines" upon which to place our hopes of recovery. There are few physicians indeed who would prefer the "doctor" to the nurse if he had to depend upon one only, even if he knew he would be unable to prescribe for himself. However, we would not be understood that we ignore medical treatment; far from it. If you "know what is the matter and what would be good for it" it is not much of a strain upon the judgment to determine. You had better attend to it.

In croupous pneumonia in the early stages or beginning of the attack, warm poultices should be applied over the lungs. The application of mustard, not to draw blisters, or what I consider better still, to rub the chest with turpentine. Either of these would be good practice. For the high fever give internally two or three drops of the tincture of aconite, repeated every half hour or hour until there is a decided effect made upon the fever. At the same time you give three to five grains of quinine three times a day.

The more recent fashion (you know there is fashion in medicine as well as

in anything else) perhaps, is to give antipyrine instead of the quinine. If the disease has advanced to the second stage, the local applications are not very efficacious and are usually suspended, but I think to keep the chest anointed with olive oil and turpentine would be advantageous. In this stage we commence giving carbonate of ammonia. It has a splendid effect upon the lungs and relieves the cough. You should give four or five grains every two or three hours. It is very particular that we keep up the strength of the patient; that can only be accomplished by a good nutritious diet. This point must be insisted upon. This form of pneumonia runs a regular course, passes through successive stages and terminates favorably in a few days, if the strength of the patient holds out and no serious complication or set back occurs. This depends almost wholly upon the nursing that he gets.

In the third stage you give carbonate ammonia five grains every three hours, and you increase the quinine or antipyrine, giving as much as 15 or 20 grains during the day. You must look well to the diet, that it is of easy digestion and nutritious milk and broths, and at this time you can add stimulants—good brandy advantageously. If the cough lingers and is severe mustard to the chest and back or turpentine and oil. Keep the patient quiet and as little disturbed as possible and plenty of good air and hygienic surroundings. If it assumes the typhoid type or if the patient is a “hard drinker,” weak or aged, you give iron, quinine, strong nourishing diet, bold stimulation and the free use of carbonate of ammonia.

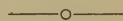
The treatment of the catarrhal form

of this disease does not differ greatly from the other form. The patient should rest in bed and have the best healthful surroundings and conditions at his command. When the expectoration moves free and copious the following prescription would be good to take.

R.—Ammon. Carb. . . . gr. v
 Mucil. Acaciae g. s.
 Acet. Scillae m xx
 Zinct. opii camph . . 3 ss
 Ext. glycyrrh pulv . . gr. iij
 Syr tolu f3ij.—*M.*
 Every three or four hours.

The above is one dose

In the various diseases when pneumonia is liable to be a complication, great care should be exercised to keep the patient from any exposure that would bring it about.



CATHARSIS OR THE EVACUATION OF THE BOWELS.

BY THE EDITORS.

It is a very old custom that has prevailed in domestic practice that when any of the family are sick to give them a dose of “pills” which was considered a panacea for all the ills of the flesh. If the pills happen to be made of the “right kind of stuff” many times they answer a very good purpose. But to administer drastic purgatives on general principles and produce severe purgation is very bad practice and in most instances does absolute harm.

In nearly every case of sickness particularly at the commencement of the attack it is very advantageous that the “bowels should be unloaded”—

the burden should be lifted from the digestive track and give the various excretory organs a better chance to disgorge. Now if you "did but know it" they (the bowels) are perfectly competent to "unload" themselves if you will only give them a chance, *fast twenty-four hours*, if they have been overworked, some of the functions sagging and are crying out for rest, what is your habit? You give them but little show if you keep "piling into the hopper" cramming in the "bread and meat, etc., etc," stuffing the stomach so that the forces have to keep grinding on the grist day and night to get it through, no let up, no rest, is it any wonder the head aches, the stomach belches forth the acid eructations protesting in unmistakable terms such ill usage, and at last, after their strenuous endeavors to right nature, yield to the invasion of disease and we find ourselves sick? Whereas, if we had taken the wiser course and stopped eating—missed two or three meals, the alimentary canal would free itself, the forces of the economy could be directed to eliminating the deceased products from the body, and after this rest, the digestive powers would do better work, give us healthier blood, and instead of sickness we would find ourselves in the enjoyment of our usual health.

But the pleasures of the table are so inviting that few of us are inclined to resist the temptation to indulge our appetites and enjoy the sensations of eating. This being the case what is to be done when we feel sickness coming upon us. We can do nothing better than to "unload," "take a physic," this brings us to our subject in hand—

catharsis or purgation. That we may proceed intelligently in the premises, we should understand something of the indications or symptoms that require interference, and to meet certain conditions, what drug or cathartic will best answer the purpose. In discussing such questions I would make mention that I draw largely upon copious notes taken while attending lectures in the Jefferson Medical College, Philadelphia, some time since. The experiences of such men as Groso, Da Costa, Bartholow and others, who have given these subjects their profound investigation, are valuable if there is anything that can be depended upon in the medical science. Cathartics, we consider as valuable medicines as we have to enable nature to combat disease, and, with a reasonable understanding, as safe as any drugs to be used in domestic practice. They are usually divided into two classes, laxations and purgatives. There is no great practical difference only as may be inferred, the laxations are milder in their effects than the others. It is well enough to understand this as there are some conditions, that require more heroic or active measures than others, and by having sufficient (and that does not mean very extensive) knowledge of the action upon the system of the different purgatives they are enabled to select their remedy best suited to the necessity.

Cathartics are employed for different purposes for the accomplishment of different ends, and the object to be attained determines the selection, or the drug to be used. Sometimes we only wish to cause a mere "movement of the bowels" a torpid state

exists, a disposition to costiveness prevails. In this case a simple laxative will answer the purpose. Sometimes it becomes necessary to deplete the mucous membrane that lines the entire digestive track, for by so doing we lessen the blood supply in the system, and this tends to retard the inflammatory processes or curb the advancing disease. In this instance a drug is to be taken that has such an effect upon the mucous membrane, or the liver may be sluggish, the various glands along the track inert, in which case we give a purgative that has a select action upon such organs, or again we wish to stimulate the absorbents in order that the disease products may be removed and cast out of the system. So you may perceive that it "won't do" to depend upon the "same pill box" to successfully meet these requirements. The value of cathartics as mere evacuants or causing a simple movement of the bowels to expel the accumulated feces can not be too earnestly insisted upon. This becomes apparent when we reflect that an overloaded state of the bowels is one of the most fertile sources of disease. After the digestive process has taken place, and the vessels have picked up the nutritive principles contained in the food eaten, then nature requires that the refuse pass along to its place of exit. If this refuse linger, be over tardy in its progress or as it will, sometimes, decline to go at all we have conditions favoring the inroad of sickness. This is demonstrated by the fact that many times we can abate a commencing fever, "bad cold," sore throat, etc., by an active cathartic administered in the early stages, which clears out the contents of the bowels,

in this manner the irritating feces are removed and the viciated secretions disposed of, so they will not be reabsorbed to poison the blood and inaugurate disease. As long as the bowels are impacted or filled with excrement and constipation prevails, other remedies that might be desirable to give will have but little effect, and the various secretions are unable to do their proper work; under such circumstances a good "dose of salts" has a fine effect.

Again there are but few forms of sickness in which the liver is not more or less effected. If that important organ is impaired or unable to perform its proper function the general economy soon suffers by it and we have but little show for the return of health as long as it is in this condition. There is a class of cathartics that are given with a view to stimulate the liver pancreas and the mucous follicles of the intestines. And such cathartics are used as will meet the difficulty. There are but few purgative medicines that are necessary to use in domestic practice to meet the foregoing conditions, the chief of which we will mention. As a simple evacuation or laxative, magnesia is very mild and possesses an anti-acid property, or the almost universal use of castor oil in common practice is as safe a remedy as could be used. Very frequently a glass of water first thing in the morning before breakfast will have the desired effect. Epsom salts, as before mentioned is a safe remedy to use. Rhubarb can be used with safety. But to be constantly taking purgatives you irritate the bowels and do great harm. Far better to procure relief by a regulation of the diet.

MALARIAL FEVER IN CHILDREN.

BY C. L. DODGE, M. D.

Kingston, N. Y.

Two forms of malarial fever are recognized, intermittent and remittent. J. Lewis Smith says: "Those who practice in malarious localities notice a larger proportion of cases of remittent fever among children than adults, because their constitutions are less able to resist the malarial poison; so that an exposure which in an adult would produce milder disease, namely, a tertian ague, is apt to cause a quotidian or a remittent in a child." My experience confirms this view. Great confusion appears to exist among writers concerning the malarial fevers of childhood. Thus Condie states: "That there is a form of fever of a remittent type produced in children by exposure to miasmatic influences is admitted." But there is not one line to be found in the whole volume on the subject of intermittent or remittent fever of malarial origin. In fact, he quite ignores malaria as a causative factor in any of the fevers of childhood. He further says that the remittent or gastric fever of infancy "is in fact, *in every instance*, a gastro-enteritis, an ileitis, or entero-colitis, accompanied with febrile reaction." Even so able and accomplished an author as Da Costa appears to think malarial fever a rare affection in children. He writes as follows: "In children a fever of remittent type is observed, the nature of which has been a subject of the gravest controversy. By some it is ascribed to the irritation of worms, by others it is regarded as only a variety of the ordinary malarial fever. Now,

there can be little doubt that what is called infantile remittent *is rarely a miasmatic disorder*. It is often a gastro-enteritis connected with verminous irritation or produced by errors of diet, or a typhoid fever—an affection which now and then occurs even in very young children." He further adds, however, "But some of these cases of remittent fever are really of malarial origin; even in very young children this may be the source. I saw, for instance, some years ago a little girl three years of age who had distinctly malarial remittent fever, which was checked by anti-periodics." The inference here is that he regarded this as an exceptional case. It is not my purpose to attempt to explain what various writers mean by infantile remittent fever. That would require a small volume. I simply desire to show that intermittent and remittent fever of malarial origin is not a rare disease in this city and the Hudson Valley. Dr. Smith is correct when he says: "There is an essential remittent fever of children due to malaria. The same conditions which produce intermittent fever do, in a certain proportion of cases, produce a fever which does not intermit, but continues with more or less pronounced exacerbations a certain number of days, when it ceases or becomes intermittent."

In infancy, and especially prior to the age of two years, the symptoms differ in many respects from those observed in the adult suffering from the same disease. Even in children over this age there are some symptoms peculiar to childhood which will be noticed further on.

In the intermittent variety the type

is usually quotidian in children under two years of age; beyond this age we see more and more cases of the tertian type, and in children over five years old it is the common form. The paroxysm in the young infant presents three stages, the same as in the adult, but while the second or febrile is well marked, the first and third are much less pronounced, indeed are often entirely wanting. A baby rarely shakes in the first stage, but it is observed to be unusually quiet; its lips and fingers grow livid, while other portions turn very pale; its hands and feet are cold, and it seems on the verge of collapse. All cases are not as severe as this, and often the fever is the first symptom to attract attention. In the second or febrile stage the pulse runs up to 120 or 140 beats per minute, and the temperature is very high,—103°-108° F. The face is flushed, or red spots appear on the cheeks; the skin is dry, there is great thirst, and the child suffers pain in the head and limbs,—at least those old enough to talk tell us so; and the extreme restlessness of young infants would seem to indicate that they suffered in the same way. This stage lasts from two to eight hours. The third or sweating stage is not pronounced in infants; the perspiration is not abundant. In the interval of the paroxysm the child seems almost well except for a slight degree of weariness. There is one symptom to which I attach great importance, both in this variety and in the remittent form, and that is abdominal pain. The child will often tell us he has pains in the stomach, and I have scarcely ever failed to find it in those old enough to answer. Enlargement of the spleen is present in some

cases, but not as frequently as some authors affirm. Where the disease has been allowed to run on without proper treatment, the so-called "ague cake" will usually be found if carefully sought for. Eclampsia sometimes occurs as a complication, and I have known it to recur two or three times before the true cause was recognized and quinia administered, after which the convulsions ceased and never returned.

The diagnosis is easy; in fact, where there is a distinct intermission there can be no question as to the true nature of the malady. The symptoms of remittent fever vary in different cases. Some cases are much more severe than others. The chill is often wanting, the child merely complaining of feeling cold. The fever soon follows, becoming almost continuous; slight exacerbations occurring in the latter part of the day. The child, if old enough to talk, complains of pains in the stomach, nausea and often vomits more or less bilious matter; the tongue is coated, the breath foul. The bowels are constipated, urine scanty and high-colored. There is great thirst, causing the child to drink large quantities of water, which is often rejected as soon as swallowed. Loss of appetite and a dry, hacking cough are common symptoms. In severe cases delirium is present, especially on waking. Gastric symptoms, such as nausea and vomiting, sometimes persistent for several days.

Diagnosis.—From intermittent fever remittent may be distinguished by its almost continuous fever. It remits, abates, but it does not intermit or cease altogether for a time. "The symptoms grow and decline; they do

not appear and disappear." Usually there is little likelihood of confounding with each other typhoid and remittent fevers. I am now speaking of malarial remittent fever. The one is a disease of long duration, and except in epidemics not very frequent in childhood. Typhoid has diarrhoea and an eruption, remittent has not; intermittent has well-marked gastric symptoms, not so typhoid. The distinction seems quite clear, and yet still mistakes are sometimes made. Let me cite a case:

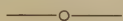
Some years since I was called to attend a little girl aged five years. She was taken with a chill, followed by high fever; had a cough, headache and severe gastric symptoms; vomited frequently and was very much prostrated. Even cold water, which she eagerly drank, was immediately rejected. Bowels were constipated; temperature 104° F. As cases of this kind are frequently met with in this city, I assumed it to be malarial remittent fever, and treated it with quinia (the usual practice here). Let me add, parenthetically, that up to this time there had been no epidemic of typhoid in this place for years, and that I had not even seen a sporadic case for over two years. Suddenly we were visited with a severe epidemic of typhoid resulting in many deaths. After treating my patient with quinia in the usual way for over a week, I realized that it was not a case of malarial remittent fever, but typhoid, which pursued the usual course and the child recovered in about four weeks.

In this case there were cough and deafness—one common to both fevers, the latter caused by the quinia. The

gastric symptoms and the constipation were against typhoid, and, if typhoid had not appeared as an epidemic just at this time, this would have been one more case of so-called "infantile remittent" caused by "gastric irritation."

Remittent fever is sometimes mistaken for incipient meningitis, and the differential diagnosis is not always easy. Both occur in children, both give rise to headache and even delirium, and both are attended with fever and vomiting. How, then, are we to distinguish the one from the other? First, the causation and previous history will aid us greatly, as a blow or a fall upon the head, exposure to the sun, etc., and the presence of the strumous or tubercular cachexia. In meningitis in the first stage we have great restlessness, with intolerance of light, and that peculiar cry the *hydrocephalic cry*. The child seems to have a more serious ailment than in the beginning of remittent fever. Wood calls attention to a peculiar condition of the pulse, which is not in accordance with the extent of the fever, and may be distinctly slow and even somewhat irregular. Then there are no remissions, and the disease rarely yields to treatment. In the second stage the strabismus, affection of the pupils, stupor, coma and muscular relaxation set all doubts at rest. How can we discriminate between the malarial remittent and the so-called infantile remittent of authors not dependent upon malaria? It is freely conceded by the writer that a form of remittent fever may arise, especially in children, from other causes than malaria. Porcher, in an able and interesting article on "Gastric Remittent

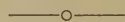
Fever," says: "But this fever is much more than a mere *gastric embarrasment*, if it is not a direct result of gastric or gastro-enteric irritation or inflammation. We incline to the belief that it is nothing more than an irritation, but drastic purgatives might intensify and prolong the mischief and convert this into an inflammation." He also states that quinia is useless in true gastric remittent fever. In a malarious region where bilious remittent fever is prevalent among adults, and a child presents the symptoms described above, I think we are justified in assuming it to be of malarial origin, and that quinia is the remedy to be employed. If the malady yields promptly to anti-periodic treatment, there would seem to be no further argument needed. Such has been my experience in the treatment of these cases; also that of my professional acquaintances. My treatment is, first, a small dose of calomel with a few grains of soda, followed by castor oil or rhubarb and magnesia. After the gastric symptoms have been relieved I prescribe quinia in proportion to the age. For a child of two years I give one grain of the sulphate three or four times a day. Other symptoms are treated as they arise. If there be much restlessness or insomnia I give bromide of sodium or small doses of Dover's powder, this is usually all that is required.



It is to be noticed that the less power a man has over himself the greater is his desire of power over others. Hence the trouble caused in society by the wicked.

A FOREIGN BODY IN THE EAR FOR EIGHTEEN YEARS.

Dr. Alfred Swann reports, in *The Lancet* of July 7, 1888, the case of a man, aged twenty-seven, who consulted him on account of an irritability of the fauces, particularly on the right side, and deafness on the same side. He said that eighteen years ago, when a child, he was playing with a piece of slate-pencil, and poked it into his ear. He went to a medical man who attempted to remove the body, but did not succeed. Deafness gradually supervened, and unless some conducting medium was used the man could not detect sounds at all. On examining the ear with a speculum, it was found to contain cerumen, but nothing else could be seen. A few syringefuls of warm water and carbonate of soda soon dislodged a long plug of what appeared to be cerumen, but embedded in this was a piece of slate-pencil half an inch long, with its rounded end toward the drum of the ear. Hearing was immediately and perfectly restored, and on examination the tympanum was found to be perfectly whole and healthy. The throat symptoms cleared up in the course of a few days.



INFANT MORTALITY.—The Italian statistician, Signor Bodie, has published some figures showing that ten per cent. of all infants in Europe die within the first month, twenty per cent. before the end of the first year, and thirty-three per cent. of the remainder during the first five years. Hardly seven children out of ten reach the completion of their sixth year.

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DRS. SHIPP, EDITORS.

SALT LAKE CITY, OCTOBER, 1888.

EDITORIAL.

THE ATMOSPHERE AS A MEDICAL AGENT.

Not to utilize an agent, that is everywhere present and of as easy attainment as the "air we breathe," which is of such paramount importance to the welfare of the sick patient, is astonishing. But as novel as the statement may appear to be, it is nevertheless a fact, that but few sick people get enough of it—that is, they do not have a sufficiency of air that has not been contaminated by having been breathed over once, or has been vitiated in some other manner. That we may fully comprehend the subject in hand let us inquire: What is the atmosphere? Of what is it composed? What is the condition of air that is fit for human respiration? Air that will fill the requirements of the human organism? The chemist tells us, that air is composed of oxygen and nitrogen chiefly. There is also a small amount of carbonic acid and the vapor of water. The relative properties of the principal elements are about seventy-nine parts of nitrogen and twenty-one parts of oxygen by volume. This ratio is pretty evenly maintained in various parts of the earth. The

quantity of carbonic acid and vapor is affected more by local causes. Differently from what we would suspect, on the tops of the mountains we find less oxygen and more of the carbonic acid than prevails on the low plains.

It is the oxygen of the atmosphere that the life processes demand. The blood deprived of this essential would soon produce fatal consequences. If a healthy body demand a certain amount to keep it in good condition, if this body be prostrated by disease how urgent it becomes that it receive a full supply of this vitalizing agent to enable nature to restore it to the normal or healthy state. Among habitations, especially in towns and cities where there is manufacturing going on and a great deal of trade moving to and fro, the air carries a great many particles and substances that do not belong to it; you can demonstrate this fact by letting a ray of sunshine or electric light fall upon the atmosphere in a room. What was invisible to the eye before now, is made very apparent. The air we discover to be loaded with small particles floating about. In it we find the lowest forms of life, microbes, bacteria, etc., specks of earthy matters, fibers of cotton or woolen fabrics, and vegetable matters. In hospitals, or sick rooms in private families, the air becomes loaded with pus cells and the various germs of disease. The air may also become charged with other forms of poison as the gasses that may arise from cesspools, out houses, barn yards, pig stys, sewer gas, dead animals, miasms from damp and decaying vegetables, or from the decomposition of organic matter. Poison-

ous exhalations are constantly escaping from the sick patient. If the same atmosphere be kept surrounding the patient he is forced to breath it over and over. In doing so he takes back into his system this same poison the cause of his sickness that nature is striving to rid itself of, and by its efforts succeeded, only to be outraged by having to do the work over again, the patient having breathed it back again.

If the atmosphere of an apartment were all that could be desired when we place the patient in it, the evacuations of his own body, added to the results of the respiration would sooner make it unfit for use. The physiological effect of pure air is something after this manner. It is by means of the peculiar construction of the lungs, that the work is accomplished. The two sets of cells of which the lungs are composed are so arranged that only the thinnest conceivable membrane separates them—the air cells from the blood cells. By means of the circulation the blood is carried into one set of cells, and through the respiration or breathing, the other set of cells is filled with the air. This very thin partition is all that separates the air and the blood in the lungs. The blood in its round of circulation through all parts of the body, has picked up some of the waste material, the ashes as it were, an element that is no longer fit to remain in the body without proving disastrous to life, and carried to the lungs. This partition or membrane is endowed with the property of permitting those offensive matters, carbonic acid principally, to pass through by osmoses as it is called into the air cells and from thence it

escapes with the breath from the body. But this is not all that is going on or through this wall or partition that separates the two kinds of cells. We discover that the blood deprived of oxygen is powerless to perform its proper function or to support life. Hence it is so arranged that while the objectionable elements are escaping from the blood into the air cells, at the same time the oxygen of the atmospheres is passing in the opposite direction through the same division into the cell filled with the blood. Here the blood absorbs the oxygen, and carries it in the circulation to do its work. The result of this interchange is to change the color of the dark venous blood to the bright red arterial hue. Our present civilization with all its boasted excellencies is accountable for many of the ills of life. There are many things pertaining to it that are prolific sources of disease. Prominent among the number may be mentioned our habitation. The houses in which we live. Their faulty construction gives us too little good pure fresh air. The divisions of the house where we spend the most of our time continuously, the sleeping apartments, are too small and not enough openings in them, such as windows and ventilators. The female portion of the community particularly spend much of their time in the house daytime as well as during the sleeping hours. The consequences are on account of an insufficiency of pure atmosphere, the air they are breathing being more or less contaminated, they are laying the foundations of disease. This tells not only upon ourselves but seriously upon our posterity that follows. Bodies that are weakened by

such influences cannot hope to reproduce a strong robust progeny. The law of heredity will surely entail upon our children our weaknesses and tendencies to disease. The first requisite, paramount to all other considerations, is, that in order that we may enjoy the blessing of health we must spend our lives in a healthy atmosphere, and especially must this be so during the hours that nature is so busily engaged in the processes of repair which is the time chiefly when we are at rest and asleep. Let us inquire how much room is really necessary. What amount of air do we require to answer the purposes of our organism? And what should be the supply in the sick room? It must be remembered that the sick require more "air space" than the healthy, that is, the atmosphere of the room or sick chamber does not get renewed as often on account of disturbance to the sick.

It is not of so much importance, the size of the room, as the amount of oxygen available. This is determined by the facilities of ventilation. As the sick are more liable to be affected by draughts or currents of air, it follows they should occupy larger rooms that such exposure might be avoided. In first class hospitals it is considered that 2,000 cubic feet is required to the patient. The reasons assigned are that the atmosphere is not so readily changed without altering the temperature as well as the currents of air occasioned by the changing which the sick must be protected from. The best authorities on sanitation say that the healthy adult requires 1,000 cubic feet of "air space" to preserve his health, and we consider that for the

sick chamber this amount should be doubled. A room containing 2,000 cubic feet will be about 14 ft. by 16 ft. and 9 ft. high. This apartment should be well supplied with windows or ventilators so as to procure ventilation. These should be on different sides so a good current of air can be had. While the bed or cot of the patient should not be so placed as to be in this current, yet it should not be "stuck in the corner" where the air is the poorest. Let the bed stand out so the sick man can have the best atmosphere in the room. Many times the condition of the patient becomes so low that his recovery depends upon the amount of oxygen he is enabled to get, by which the vital forces are strengthened, to enable them to conquer the malady. It is not surprising that so many cases of sickness prove fatal when we understand the pent up quarters, deprived of the vitalizing properties of the atmosphere, they occupied during their sickness. Nor is this all; we sometimes find two, three or more sick patients occupying this same small room. What an uneven contest nature has under such circumstances. It is very unfortunate in cases of serious illness, if more than one patient has to be placed in the usual size room found in ordinary dwelling houses. If the same energy were displayed to supply the sick-room with a sufficiency of oxygen as is displayed in getting to the drug store the chances of patients for recovery many times could be greatly enhanced.

Anxious mothers who have children sick with measles or scarlet fever or kindred complaints bury them down in blankets, fairly smothering them almost, for fear of their taking cold.

They deprive them of the only hope they have for recovery by shutting them out from good fresh air. They breath over and over again their own breath, until the poison accumulates in such quantity that the vital forces are unable to combat the encroachment and the child sinks into an untimely grave.

Mothers give them fresh air. See to it, that they get it.

I should judge by the way some people "hermetically" seal themselves in their bed rooms in cold weather, stopping every crevice where the "cold" could intrude, that they considered oxygen a superfluity in cold weather. They have selected the narrowest contracted room in the house for their bed room because it wasn't big enough for anything else, whereas, for health considerations, they should have taken the very best and roomiest apartment in the establishment to sleep in. And this is not all. Quite likely the husband, wife and baby are occupying the same room, and in addition, a good-sized lamp is burning brightly all night for we must see to attend to the baby, when it cries. Now, that lamp eats up all the good air before midnight. Is it any wonder the baby cries? In the morning the husband gets about as though he had had a bad night of it, while the poor mother looks as though her life was about "dragged out of her." This whole business would have been changed if there had been sufficient wholesome atmosphere for the inmates to have respired. The reparation processes would have been aroused with the necessary element oxygen, to have repaired the worn tissues from the day's labors and after a refreshing

night's rest they would have been prepared for the coming day's duties.

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MOTHER'S METHODS. NO. V.

BY DR. ELLIS R. SHIPP.

Who can so well understand the ailments of infancy and childhood as the observing and intelligent mother? She is with her child almost every moment and can readily perceive every change that may take place in its physical condition, that these changes are numerous and constantly varying is a fact that most mothers have had occasion to note. The little one may at one time be full of life and vigor, smiling and frolicking with delight. Very suddenly there comes a change—the bright smiles have vanished, the features are pinched and drawn, or perchance flushed with fever; and instead of the musical chirping the lips are either silent or moaning with pain. The mother is alarmed and sends for the doctor. Perhaps in another hour by the time the doctor arrives these threatening symptoms have subsided and the learned man thinks the child not very sick and prescribes some simple remedy, or what we would term a *placebo*—just something to satisfy the anxious mother. This treatment is all very well under the circumstances, and although it may really be unnecessary, the remedies being so simple, will do no harm. But let us just imagine the results had the physician arrived an hour earlier. With the alarming and threatening symptoms that then existed he would naturally think the child dangerously ill and that some heroic or powerful remedy was demanded, and very often if the child be not al-

ready sick the medicine would make it so, by deranging the digestive organs if in no other way. The fact is, a child's temperature rises very high at times on very slight provocation, an attack of indigestion or checking of the perspiration from a sudden draught of cold and will send the mercury away up above a hundred in a few hours time, when perhaps in as short a time it is down again, so we see we cannot always depend on the range taken by the thermometer.

Now we argue that the mother who is with her child so continuously is better capable of judging, in many instances, by her motherly instincts, quick observation and natural intuition, than perhaps the more learned physician. Then in addition to our introductory query we would suggest that the mother be to a very great extent her own family physician. Her province is most assuredly the *prevention of disease* among her children; and we believe, too, that she can do much toward the cure of all minor ailments in their first onset. But this great end cannot be gained without much thought and study. There are a few general principles that every mother should understand for herself—a few simple remedies that should in all cases be promptly applied—in fact they are the very agents the doctor would advise on his arrival, and if attended to before he come, a great advantage is secured by gaining time. If the child be not very sick the simple remedies are all that are needed; if, on the other hand, it be some serious malady every moment is very precious to the life of that child. Indeed the initiatory stages of disease are the golden moments for aborting or cutting

short the attack. There is no question that many an otherwise lingering ailment has been shortened—and others prevented altogether by the prompt and judicious management of the intelligent and energetic mother. How quickly will the warning cough of her little one arouse her from her slumbers. She springs from her bed and with the hot foot bath, fomentations about the throat and chest and perhaps a spoonful of alum and honey she wards off an attack of croup. If that mother had been negligent and ignorant, the trouble which at first was so slight, might have culminated in the membranous variety which baffles the skill of even the most thorough. Sometimes during the period of dentition the infant may manifest very severe brain symptoms, screaming out in the sleep, rolling the head and lying with the eyes half open and turned back. This condition is due to congestion and irritation consequent on the great pressure of the teeth upon the cranial nerves that supply the face.

This condition demands local blood letting, not by the lacerating and painful process of rubbing the teeth through with a thimble, that some injudicious mothers resort to, but a transverse incision made with a very sharp bistoury or knife, which will relieve at once the nervous irritation and is not in the least painful, indeed it is sometimes such a relief that the child actually ceases its crying at once. It is best that this should be done by a regular practitioner, but if the symptoms are very alarming, with threatening convulsions, something can be done while awaiting the arrival of the doctor. All mothers should know that the head should be kept cool and

the feet warm, and especially in these conditions. Apply a cool wet cloth or icebag to the head with a long narrow mustard plaster down the spinal column, and smaller ones behind the ears which should be left on only until the skin is reddened. *Never blister with mustard.* Give a hot foot-bath, or what is better still, immerse the child in a full bath of warm water, at a temperature to feel comfortable. Strip the little one and pin a soft woollen blanket snugly around the neck and when in the tub let it come outside; this excludes the air and keeps in the heat and prevents the shoulders and back becoming chilly. Don't put the child in warm water and just simply keep him there till the water is cold, the benefit of such baths are very questionable, if not positively injurious. At first the water cannot be borne very warm but the temperature can be gradually increased and kept at proper heat by carefully lifting one side of the blanket, and with a pitcher pour in very slowly more hot water, always guarding the little patient with your own hand that he may not be frightened nor burnt with the hot water. A little bicarbonate of soda added to the water will assist in relaxing the skin and lowering the temperature in case of fevers.

If necessary to keep up the sweating process any length of time the bed should be warmed with hot brick, or what is better, bottles of hot water, take a warm, dry blanket and pin over the one already around the child, unpinning the first one, then tenderly lift him out of the tub, place him in bed and cover up closely with blankets. As a rule sleep will be thus induced while profuse perspiration bathes the

entire body. As soon as restlessness is manifested rub the body with a soft Turkish towel until the skin is red and then rub with alcohol and put on the clothing; if kept in bed the covering should be very light, so as not to induce too great a relaxation of the skin. A bath thus managed is good and beneficial in nearly all diseases of childhood, as well as of adults, if attended to on the first intimation of anything being wrong.

We have often seen babies restless and feverish and crying with pain almost immediately relieved, and quiet sleep induced by the application of a wet bandage about the body. But there is a right and a wrong way to do everything; this applies in medicine and nursing as well as in anything else. If this bandage be wrung out of cold water and put on abruptly, it will frighten the child and produce a shock to the system. So it is best to have the chill off the water, and with your wet hand gently rub the back and abdomen before applying the wet bandage. Then with the towel wrung so it will not drip nor wet the clothing, place it around the body and immediately over this a thick dry flannel secured with safety pins. In all cases of fever much relief can be given by carefully sponging the body under the bed-clothes with warm water and soda, and afterward rubbing the body with oil. This will always be followed by a lowering of the temperature and is so very grateful to the patient. In cases where there is soreness of the muscles and painful joints much comfort is afforded by rubbing with olive oil in which is dissolved camphor gum.

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BRONCHITIS IN CHILDREN.

BY THOMAS D. SWIFT, M. D.

Like nearly all diseases common to both infancy and childhood on the one hand and adult life on the other, bronchitis presents points of difference in symptoms and clinical history due apparently only to the difference in age, and independently of pathological differences. By this is meant that simple acute and subacute bronchitis act differently according to the age of the patient, irrespective of the absolute degree and amount of the inflammatory process. Furthermore, reference is not made in the above remark to the more violent and dangerous form of the disease, involving the finest subdivisions of the bronchial tubes, and affecting the very young or the very old, recognized under the separate designation of capillary bronchitis. It is often not easy to reach a perfect conclusion in diagnosis between the two conditions, capillary and simple acute bronchitis; but if we find existing numerous and very fine rales heard over both sides behind, and mainly, if not entirely, with inspiration, and if the dyspnea is very great, causing cyanosis, we can fairly pronounce the case to be one of the capillary variety. Yet the dividing line is not clearly marked, and the conditions may co-exist or overlap.

Limiting our attention at present to simple acute and subacute bronchitis, we may observe, in the first place, that this division of degree indicated in the names is marked by greatly more decided differences in symptoms and in indications of general severity of sickness among young children than in adults. With the latter, an acute attack presents usually a more frequent cough, a greater amount of pain in the chest, occasionally some fever, and the discomfort due to a pronounced cold in the head; but it does not often happen that an adult feels sufficiently sick from this cause alone to stay in bed. Little children will, on the contrary, present a higher temperature range, a respiration greatly increased in frequency, a cough of great violence and frequency, great unwillingness to eat, and a condition of prostration sufficient to alarm the parents and to cause the physician strongly to suspect the existence of capillary bronchitis or broncho-pneumonia. With these indications of grave sickness, the physical examination will reveal but few rales, and one day only, or two at the most, will bring about so marked an improvement and such complete relief from the serious symptoms that any uncertainty as to the diagnosis is entirely removed, and the conclusion is reached that simple bronchitis only

was present. The writer has seen five or six such cases recently in children from two to five years of age; the temperature reaching 102° or thereabouts, the respiration being 50 or 60 to the minute, the cough almost incessant, and the prostration being about as great as in cases where the physical signs showed the presence of a large amount of consolidation. The dyspnea was great, and the little "catching" noise described as grunting on expiration was also present in some degree; and the movements of the *alæ nasi* were observable. Yet careful auscultation and percussion made it certain that no consolidation existed, and the scarcity, as well as the rather coarse than fine character of the rales, pointed away from true capillary implication, and the dyspnea did not reach the point of producing cyanosis. A single day sufficed to change the entire aspect of things—the temperature and respiration falling to nearly normal, the dyspnea and cough being almost gone, and the general condition being only that of mild subacute bronchitis. Cases like this, occurring not very infrequently, enable us to constitute them into a special *class*, presenting, as stated, severity out of proportion to the disease, and not having a parallel in adults. A prominent feature of these acute cases is the small amount of secretion of mucus in the bronchial tubes. The inflammation does not seem to reach a stage when the production of mucus or mucopus amounts to much. The cough, almost incessant as it often is, is irritative in character, and this fact is strongly suggestive in the matter of treatment.

The diagnosis of this acute and severe form presents difficulties.

Pneumonia is at once suggested on seeing such a case, and can only be absolutely excluded by the non-appearance of the physical signs of consolidation within twenty-four hours or so, and, on the contrary, the great improvement occurring in that time. Therefore, practically at least, that delay must often be made. From pronounced capillary bronchitis, discrimination is to be based on the two points already mentioned, the character and number of the rales audible, and the absence of dyspnea great enough to cause cyanosis. This is often uncertain, and the probability is that the two conditions often co-exist, and it is simply a question of preponderance of one or the other.

In cases such as these, and in acute cases of less severity, we are impressed by the great susceptibility to remedial measures. Simple emetics, such as the yellow sulphate of mercury, afford great relief to the dyspnea; and as little children never, or rarely, expectorate with acts of coughing, that of vomiting itself seems to be a substitute for expectoration, and manifestly clears the breathing space of what accumulation of mucus there may be. It is presumable also that simple emesis diminishes the condition of swelling and congestion. Sedatives, preferably the camphorated tincture of opium, also afford remarkable relief in the matter of the frequency and severity of the cough. Nauseats, as ipecac, accomplish much more than in adults.

In addition, counter-irritation, by means of mustard with flax-seed poultices, will often produce the most gratifying amelioration. Sometimes two or three hours of their use will cause

to vanish a distressingly labored respiration and constant cough.

Of course, the main practical point in these cases lies in the very different prognosis from that of pneumonic consolidation or of capillary bronchitis. It is highly improbable that a child with simple bronchitis, however severe, will do otherwise than recover.

With regard to the subacute variety of bronchitis, by far the most frequent of children's diseases, the differences consequent on age are less pronounced. An average case will present the same loose-sounding cough, with little or no disturbance of general health otherwise, that is so commonly seen in adults. A noticeable peculiarity, however, of this cough is that it is apt to be much more troublesome at night than in the daytime. The horizontal position with children seems to cause greater interference with respiration, and to excite more frequent attacks of coughing. Parents will almost always say that the cough is worse at night. Through the day, the cough often assumes a paroxysmal character, strongly suggestive of whooping-cough minus the whoop; and the writer has found this tendency to night-cough a valuable point of differential diagnosis in doubtful cases, as it is not present in the latter disease.

There is further one aspect which forces itself upon our notice—that bronchitis in this degree is often nothing more than an indication of a general condition of the individual below par. Children under bad hygienic conditions as to fresh air, nourishment, and proper clothing, living in tenement houses, are with astonishing frequency the subjects of this slight condition of bronchitis. The causative

relation between this poor general condition and chronic inflammation, with enlargement of the tonsils, is widely recognized, and it would seem that a subacute bronchitis is a part also of the same sequence of events. In pronounced or aggravated instances, which we call the "strumous" condition, the mucus membranes of the entire digestive, as well as of the respiratory tract, present this state of chronic catarrhal inflammation in some degree.

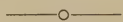
It is at once clear that subacute bronchitis having this causation is a very different affair from an acute sthedic inflammation with fever, and due to exposure to cold or wet. Of course, this rule does not cover all the cases; but even where the surroundings and other conditions are favorable, the bronchial trouble is asthenic in nature, and may often be assigned to a run-down condition.

These cases are not generally benefited by emetics or other cough medicines. Stimulant expectorants do not avail, nor does counter-irritation accomplish much—the cough remains unaffected.

Means addressed to the improvement of the general conditions, included practically in the giving of food of proper quality and quantity, and in the temporary, at least, removal to the country or sea air, will take hold at once, and oftentimes a few days will bring about a complete removal of the bronchial part of the difficulty. If these means be available for a few weeks or months, we can expect to produce an entire change of the conditions, so that the manifestations do not return.

Next in importance stands the ad-

ministration of cod-liver oil. To give one or two teaspoonfuls of an emulsion containing fifty per cent. of the oil, three or four times a day, according to age and ability to digest it, will often produce considerable improvement in a few days, and sometimes a complete cure in one or two weeks. To bring about this result in a case of many weeks' standing, and one which has resisted entirely the other ordinary means of counter-irritation and expectorant remedies, is very satisfactory. It is apparent that the cod-liver oil only acts by improving the general condition; yet the good effect is so decided and rapid that we may almost regard it as a specific in subacute bronchitis.



WOUNDS AND THEIR TREATMENT.

BY DR. BROWN.

There are various kinds of wounds that may be inflicted upon the flesh, and from the character or the manner by which they are produced we designate them, as the incised wound, or the punctured wound, etc. An incised wound or a cut from some sharp instrument is the form that most usually demands the attention in domestic practice. Such injuries are constantly occurring. Many times the surgeon is not convenient and a knowledge of how to treat them in domestic life often is of great service and advantage. A man may be away from home, up in the mountains cutting timber, and by accident cut his foot badly or in some other situation he receives a cut on some part of his body; under such circumstances he is

fortunate if he understand something of the treatment it should have, at least, "what is best to be done" until, if it be of a serious and severe character, he can obtain skilled attention.

In the discussion of the subject it is well enough to understand the processes of repair or how it is that when we receive an injury it heals or gets well. As it is in sickness and disease so it is in any form of injury. It is the circulation of the blood that restores. It is the office of this circulatory medium, of the small bodies that float in it, called the corpuscles, to pick up the waste material, the "ashes from the fires of life" that are produced by the phenomenon of living, and carry this worthless matter to the various organs that are empowered to extract it from the blood and cast it from the body. The organs that are engaged in this work are chiefly the kidneys. But this is not all of the functions of this very important circulatory medium—the blood. Being loaded with those elements and materials necessary for the growth and repair of the different tissues of the system, the circulation of the blood imparts to these structures the substance that goes to build them up or repair them when they have sustained injury. This wasting is continually taking place and repair is constantly going on through the good offices of the circulation. We may give the doctor and his *medicine* the credit for healing us, but like the credit in many other circumstances in life, it gets posted up to the wrong account.

Now, what can we do in case of an accident where we have cut ourselves badly or the soft tissues have sustained injury in any manner? We can only

put ourselves in the most favorable situation and condition where nature can do the work. Man of himself is absolutely powerless to heal, but he can perform an important part in assisting in the good work of repair. A wound may be placed in a situation or condition where the forces of repair may be greatly aided. To illustrate: A man might be traveling a journey and on his way come to a deep chasm, if he had a bridge to throw across it he could pass over and meet but little hindrance to his travels, but in the absence of the bridge he would be compelled to climb down the sides, ford the creek at the bottom and ascend the opposite bank to regain his road. So in the case of a deep cut in the flesh, if the sides of the flesh are not properly adjusted and placed together and kept in place so nature can easily (bridge) unite by throwing out plasma from the blood that will readily cement and make whole the injury as though no damage had been inflicted, and if we neglect to do what nature on her part could not do by bringing the edges together, the reparative process has to build up from the bottom by the manner called gravitation, a slow and tedious process as compared with the "bridge business," where the sides of the chasm were kept together and the wound healed by first intention, as it is called. To favor the healing process we should have absolute rest.

If the wound is situated upon a dependent part of the body as the lower extremities, it should be elevated so that the blood will not crowd too much upon the injury. If we do not elevate the part the presence of an over-supply of blood will cause the

wound to throb with pain, and an excessive amount of inflammation will be encouraged that will prove decidedly injurious. It cannot be insisted upon too strongly the advantage of placing the wound in an elevated, easy and comfortable position and maintaining complete rest while the active circulation of the blood is busily engaged in repairing the cut or the wound that has been inflicted. These general principles hold good in all classes of injuries, whether in sprains of the joints, fracture of the bones or the invasion of the soft tissues.

If by the cut an artery should be severed, followed by severe hemorrhage or bleeding, a tight bandage should be applied above the wound or on the side next to the heart to stop it or by making firm compression upon the wound, binding on a handkerchief or any thing that can be readily obtained, when perhaps the bleeding can be stayed in this manner. You will be able to determine if an artery is cut by the fact that the blood will spurt out in jets synchronously with the beating of the heart and will be of a bright red color, while the blood from a vein is of a darker, purplish cast. When the hemorrhage is controlled, the next step is to get the lips or sides of the cut in close apposition and to maintain them in this position. To do this, if the wound is deep and extensive, some stitches or sutures are taken. Adhesive plaster cut into narrow strips lengthwise of the cloth is used to hold the parts in place. You heat the back of the strips by placing them against a tin or vessel of some kind containing hot water and carefully stick them on the wound

cross-wise, the lips of the wound being carefully held together while it is being done. The strips should extend a short distance on each side of the cut, but not encircle the limb so as to interfere with the circulation. The strips should be narrow and put on a short distance apart. Care must be observed when they are removed that you do not tear the edges of the wound apart and destroy the work of repair that has been accomplished. The precaution should be taken before the strips are applied to shave off the hair, or you will have trouble to remove them. After you have applied the adhesive plaster in this way nothing further is necessary but to put on some light dressing that will exclude the air—the blood itself in the absence of anything else answers very well as a dressing. Before doing up the wound you should be careful that there is no dirt, splinters or foreign body left in it to act as an irritant. The healing process under the circumstance would be very unsatisfactory. If we accomplish union by first intention the fluids, such as blood or serum, must be removed and the edges accurately placed together and kept there. When a wound has been properly dressed the less it is interfered with the better, meddlesomeness should be dispensed with.

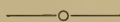
Experience has demonstrated that the greatest simplicity in the dressing of wounds is attended with the best results. If the parts of the wound are placed accurately together and the limb kept in an easy elevated position so that the muscles that have been wounded are kept relaxed and in a state of rest; if the condition of the patient otherwise be favorable, you

have done the very best that can be done to hasten the repair of the injury.

Cold water dressing has been in vogue a long time. However, some surgeons of note give the preference to warm water instead. In deep, extensive wounds a dressing of olive oil is excellent, it prevents the contact of the air and thus diminishes the chances of profuse suppuration. In contused, lacerated or punctured wounds the use of laudanum, arnica or lead water and laudanum may be used, especially if there be a tendency to suppuration. If the wound fail to heal by first intention, more or less suppuration and sloughing takes place and the healing process is accomplished by gravitation from the bottom. It will be necessary to keep the wound cleansed by tepid water carefully applied. There must not be any handling or interference that will break up the granulations, let the water fall upon it from a sponge or towel; be careful not to disturb the healing operations by wiping the wound.

The sickly odors from the discharges can be neutralized by a weak lotion of permanganate of potassium. It may happen that the reparative action becomes languid and the healing of the wound progresses very unsatisfactorily. In that case some stimulating applications become necessary. Alcohol and water or spirits of camphor are recommended. A drachm of the tincture of myrrh to the pint of water, a weak solution of nitric acid or a solution consisting of two grains of sulphate of zinc to the ounce of water with a sufficiency of lavender water to give it color and fragrance, are recommended as of service by Prof. Gross.

These lotions are of a stimulating nature, exciting new action, allaying fever and promoting the granulating process. The dressings must be kept soft and pliable over the wounds and must not oppress by their weight, if so, they are injurious. Cleanliness, not only of the wound, but of all the surroundings, must be scrupulously enforced. A good nourishing diet and tonics, as quinine combined with the chloride of iron are good constitutional adjuncts. Keep the patient's apartments as sweet and pure as possible by good ventilation, that nature may be assisted in every way possible in her efforts at restoration.



TREATMENT OF FRESH, OPEN WOUNDS.

BY Q. C. SMITH, M. D.

It is presumed that every physician has made himself familiar with the various modes of treating fresh, open wounds, as set forth in modern standard works on surgery; therefore we forbear to consume your time or insult your intelligence by going through a tedious rehearsal of the history of this subject.

We do not pretend to anything new or original, but believe, it may be profitable, at least to some, to remind them of certain means and measures that experience has demonstrated as being highly conducive to the rapid healing of fresh, open wounds, in a safe, comfortable manner.

The general method and principles of treating fresh, open wounds—whether they be incised, lacerated, contused or punctured—which we advocate will apply to either class, with

such variations as the severity or class of wounds would indicate, the same general principles being observed in all cases.

If the wound be comparatively severe, the limb or part wounded should be so placed as to most favor free arterial circulation through the parts near around the wound, and a free flow of venous blood away from the wound.

To facilitate brevity and precision, we will now state the composition of two lotions we use in dressing fresh, open wounds.

The first is made by adding comp. tinct. of iodine to clean hot water until the water is a light cherry-red; this we will designate the "cleansing lotion," which should be used as hot as is comfortable to the hand of the operator.

The second lotion, which we call the "healing lotion," is made thus:—

℞ Spts. turpentine,	. . .	oz. ij.
Pow. gum acacia,	. . .	oz. j.
Aqua dest.,	. . .	oz. ij.
Mix well, and add		
Camphorated tinct. opii,		
Pure white sugar, in fine		
powder,	. . .	aa oz. ij.
Mix well together.		

Immediately after all necessary ligation and torsion has been done, the hot cleansing lotion should be freely streamed over the surface of the wound with a clean sponge, using the other lotion hot, pure and clean, until all blood oozing has entirely ceased, and for several minutes longer. At no time during the cleansing or dressing process should the raw surfaces of the wound be wiped, or even touched with the sponge. As soon as the

cleansing lotion has ceased to drip from the wound the healing lotion should be freely and thoroughly applied to every part of the wound.

The wound is now ready to be coapted, which should be done in a gentle, accurate manner, using as few sutures as possible, and preferably carefully graduated ones. Secure even pressure by bandages over dry absorbent-cotton compresses. A good-sized pledget of absorbent cotton, proportioned to the size of the wound, saturated with the healing lotion, should be snugly placed over the joined edges of the wound, and over this a thick compress of dry absorbent cotton, held in place by carefully applied bandages; for gentle, steady compression is a great aid to quick union, and a powerful safeguard against septicæmia.

If the wound be of such shape, size or condition that it cannot be coapted, the foregoing mode of dressing will still be in order, the absorbent-cotton pledget saturated with the healing lotion to be closely applied to all parts of the raw surface, and well and thickly covered with dry absorbent cotton.

Fresh wounds in sound flesh, that can be accurately coapted, dressed in this manner, usually heal by first intention, and even extensive lacerated contused wounds will rarely suppurate, but heal rapidly, giving little pain, and never producing septicæmia. Wounds thus dressed should not be molested as long as they are comfortable and emit no odor, or show no signs of suppuration.

As a rule, with rare exceptions, wounds thus dressed should not be wet with water after the primary dress-

ing, as dryness is highly conducive to safe and rapid healing.

In subsequent dressings the same means and principles before referred to should be carefully observed.

But, from any cause, should the healing process cease to progress, the healing lotion should be withheld, and, for a few days at least, the wound dressed with a dry powder somewhat like the following:—

R Sweet aloes,
Iodoform,
Boric acid, aa, in fine
pow., dr. j.
Acetate morphia, . . . gr. x.
Subnit. bismuth, q. s. f. t. oz. ij.
M. ft. pow.

Or, the following:—

R Pure sugar,*
Camphor, aa, in fine pow., oz. j.
Mur. hydrastis, . . . gr. viij.
Mix well.

S.: Spread freely over all the raw surfaces of the wound, and renew the dressing—without water. As soon as the wound discharges, begin to moisten the dressing, or the wound emits a perceptible odor.

In the topical treatment of some wounds, owing probably to some dyscrasia of the flesh-juices, in order that they may continue to heal uninterruptedly, the character and composition of the topical medicament must be changed every two or three days.

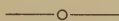
Wounds dressed after the foregoing plan, however extended, if properly

* Pure sugar, in fine powder, mixed with spirits of turpentine to consistence of salve, is a very efficient healer to fresh or old wounds, and a powerful remedy for gangrenous wounds.

attended to, very rarely suppurate or emit any odor whatever.

Last, but by no means least, the surgeon should not for a moment forget that his wounded patient is a sick man—with stronger reason if the wound be severe—and begin at once, without delay, to use all appropriate means, hygienic, pharmaceutic and psychical, calculated to cause the constructive machinery of life to perform its every function to the highest possible degree of perfection.

As we stated in the outset, we have not presumed to tell of anything new, for the medicaments we recommend are familiar to all, and have long been in use; nor have we labored to achieve originality, but simply to remind you of some old, good things appertaining to the treatment of fresh, open wounds, which we can confidently assure you are at least equal in safety and efficiency in every respect—and we know whereof we speak—and far more simple and convenient than the elaborate toilet of the Lister dressing,—so-called the antiseptic treatment.



MOTHERS' METHODS, NO. VI.

BY DR. ELLIS R. SHIPP.

Although the mother may not be able to make a scientific diagnosis in any given disease, she is yet able to discern before any one else when her child is not well, and can also do very much to ameliorate suffering by her careful and solicitous attention and nursing. Then why should not all mothers understand the rudiments of physiology and hygiene, and become at the very least competent nurses?

We can say without fear of contradiction that no one is so well qualified for this avocation as woman. Her soothing voice, her gentle yet magnetic touch, her quiet manner and her sympathetic heart, all conspire to make her presence most desirable in the sick room, whether it be in the aristocratic chamber of the stately millionaire or the lowliest hovel of the humble poor. With these natural abilities and instincts properly cultivated what a boon would be bestowed upon suffering humanity, and especially upon the early life of future generations! Are not the mothers of every race and color the custodians of the physical development and health of their people? Upon them more than any one else depends the physical constitution of their children. For in constructing any building, its character must depend upon the foundation upon which it stands; and again, however handsome and massive, grand and substantial may be the structure, it must be well cared for and kept in repair, or how soon the the beautiful edifice shows signs of neglect and in a short time becomes dilapidated and ruined. And as there is usually some one appointed to keep these fine premises in order, so does the mother receive her stewardship from the great Author of all. Could she crave a grander, nobler or holier calling than bearing and raising the souls of men? All true mothers will respond, "*No, verily.*"

What is the cry of the little child when in pain or trouble? Perchance it is a fall or a blow that impels the cry of "Mamma." Yes, and we have even seen the children of a larger growth, with their care-worn brows

and silvered hairs, when in the throes of agony and pain call aloud for "Mother." And as a rule she is the one who first hears that cry and the first to see if the injury is slight or serious. Whichever it may be, her hand is the first to wash and dress and bandage the injured parts, and why should she not be able to do this in a proper and scientific manner just as well as in a rough and bungling way? Just let us think for a moment how much pain and suffering could be saved if on the arrival of the physician he found the injury had received all the attention that was necessary. Could he conscientiously open up the wound anew, thereby increasing the shock and suffering and running the still more dangerous risk of a recurring hemorrhage which the wise and careful mother had controlled before his arrival?

Now, we do not expect every mother to be doctor, neither a surgeon, but we do know that it is within her province to be able and qualified to meet and care for an emergency; and who can estimate the blessing, when a few moments makes the difference of a life lost or saved. Sometimes a very slight wound, if an artery is severed, may prove fatal through the loss of blood before the doctor could possibly reach the patient. What shall the mother do, stand by and see the vital stream gradually but surely ebbing away and every moment diminishing the chance of saving that life so dear and precious to her, when such a little knowledge might have saved him? Often the position of the limb will greatly diminish the flow of blood, elevating the part so that it will be higher and not lower than the

heart, which is the great source of blood supply.

Here we see a knowledge of physics can be utilized. Ah, yes! the mother *should* be educated, and the coming woman *will* be educated. The hemorrhage may also be checked by placing the finger upon the bleeding point. If it be a small one a coagulum or clot will soon form, thus effectually closing the avenue of escape. If, on the contrary, the injured vessel be a large one, the hemorrhage will be controlled only while the pressure is sustained and will immediately break out afresh when it is removed. So that we find in such cases the ligature is the only resource—the bleeding vessel must be found and secured by firmly tying with carbolized silk, or what is sometimes used, prepared catgut. Not all mothers, it is true, have sufficient knowledge or presence of mind to do such work; but there are none who could not by position, by pressure with the fingers, or pads and bandages control the flow of blood until the doctor comes.

Epistaxis, or what is known by the laity as nose bleed, is quite a common occurrence with young children and there is no doubt that in some cases it is to a certain extent beneficial, where there is evidence of plethora and where headache is complained of, the loss of a little blood will often relieve. But there are some cases where it seems to be a constitutional weakness or discrasia and it may become so profuse as to greatly weaken the system and even endanger life. Usually the application of cold water or ice to the head and face will abate the bleeding at once. But occasionally we meet with cases so persistent that it becomes

necessary to resort to the most powerful remedies at our command. Local applications may be employed, such as rubbing the nasal passages with powdered alum, or tannin, or the persulphate of iron, or even plugging the nostrils with lint rolled in a round pad and saturated with a solution of either of the above astringents. And it may be necessary to employ constitutional remedies. Aromatic sulphuric acid, sufficient to pleasantly acidulate a wine-glass of water, or twenty to thirty drops of the fluid ext. of eegot given every three or four hours, will usually have the desired effect.

It is a curious freak of human nature that prompts a little child to put everything in the mouth, or even foreign substances into the ears and nose; but it is nevertheless a fact and condition from which children often suffer and which causes the mother the greatest alarm and anxiety. The little one may be crawling about the floor and pick up unobserved a piece of coal, a stick or button or even a piece of paper—into its mouth it goes! and when once there it is found to be not very agreeable and the child tries to get rid of it, and it is just as likely to go down as out, so it is swallowed or partially so, it goes as far as its size will permit and there it is likely to remain unless very active measures be adopted. It is completely shutting off the inspired air from the lungs. What's to be done? Send for the doctor and sit quietly down till he comes? *No, indeed.* The question is how long can the child live without breathing: reason tells us but a very few seconds. The child is in the most extreme peril and there is not a moment to be lost. Presence of mind is

demanded together with the most prompt and judicious action. Invert the head with face downward and give several sharp slaps on the back between the shoulders, introduce the index finger far down to the offending member and insinuate the end under the foreign body and hook it out. The finger is the very best instrument for this purpose, in the first place because it is always with us and ready for use, and in the second place its sensitiveness and delicacy of touch avoids the danger of injuring or lacerating the surround structures, as would almost surely be the case were a metal hook or other instrument used. If it be found impossible to remove the substance whatever it may be, you may be able to move it so as to allow the air to enter or it may be pushed downward and allow it to pass through the alimentary canal.

Foreign bodies in the ears or nasal passages although not so dangerous and rapid in their action are often very distressing and injurious in their effects. If in the ears and within the range of vision they can be removed with as simple an instrument as a ladies' crochet hook. But the greatest caution must be observed lest the trouble is aggravated instead of relieved, which could very easily be done by a false or unwise move. If the object of your search be not within sight the task should in all cases be left to the skillful surgeon, and the sooner such skill is brought into requisition the better for the patient.

Sneezing will usually remove foreign bodies from the nasal tracts, so that a "pinch of snuff" might be used to advantage. Or it may be necessary to remove mechanically as from the ear.

Salt Lake Sanitarium

A MONTHLY JOURNAL OF MEDICINE AND SURGERY,

Devoted to the prevention and cure of diseases and injuries, and the promulgation of the laws of health and life.

DRS. SHIPP, EDITORS.

SALT LAKE CITY, NOVEMBER, 1888.

EDITORIAL.

CAUSES OF DISEASE THAT WE MIGHT CONTROL.

In the last number of the *Sanitarian* we published the address of Professor Agnew, before the American Surgical Association, in which he gives many valuable hints on the subject of health, alluding to many of the causes and customs of modern society that produce so much distress in the form of surgical disease. We cannot urge too strongly upon the attention of our readers the importance of the subject, and the masterly style in which he has handled it, and recommend its careful perusal. The Professor is rapidly learning the value of ferreting out the causes of our afflictions and seeking to remove them; realizing that greater success will attend their labors in this direction to alleviate the sufferings of humanity by forestalling the attack of disease, than trying to baffle its ravages when it once has planted its fangs. The axiom that "it is easier to prevent than to cure" is bearing so heavily upon their minds, that it is beginning to bear fruits, to show practical results. We now purpose to look at some of the most common sources or causes that are opera-

ting in our midst to bring sickness and how we can turn at least some of it aside by prophylactic or preventive measures. Medical writers allude to the causes of disease as predisposing or exciting. The predisposition may be hereditary or acquired by the individual. A tendency to any form of sickness we have had entailed upon us by our parentage we can not very well escape, as far as ourselves are concerned. There is not much left for us, but to meet the tendency with the best efforts at our command to turn it aside. But we have left us a wide field of operations, to endeavor not to entail upon the next generation any "hereditary taints" any more than we can help. What has been handed down to us we can not very well avoid. But we should strive to improve and ameliorate that if we transmit it to our offspring it may be in a milder type, with the hope that the good work may go on until no trace may be found in our posterity. We can only expect to accomplish anything in this matter by an energetic *regime*, living up to the requirements of our organization, getting a knowledge of and keeping the laws of health that we may turn the tide or tendency to physical degeneration into the opposite direction or one of improvement and better development. We see a commendable zeal to improve the stock, the domestic animals we raise for our use, but as we have before intimated in this journal, our own posterity seems to command but little of our attention until an influence sufficiently potent can be brought to bear upon the social customs and habits of society, to conform to the requirements of nature, that our work,

manner of living and style of dress may all be governed by natural laws, we can expect but little will be done to accomplish so desired an end. In addition to the hereditary, we also have the acquired causes of disease. This last class, save by the "force of circumstances" we have pretty much in our own control. It needs but the avoidance on our own part to escape from the effects. There is much carelessness and even recklessness on the part of our young men in exposing themselves to cold. They are young and hardy. They perform much labor in the mountains, and this is done, much of it, after the snow falls; they get wet and go with cold feet. While they at present have enough vitality to ward off any present serious effects, yet in after life, if you follow up their history, you will find them suffering with rheumatism and kidney troubles. A fruitful source of the same difficulty comes from exposure in constructing dams, working on water ditches and irrigating the growing crops without sufficient protection to the feet and legs. After a while "joint troubles" and conditions of Bright's disease in some form are liable to overtake them. It seems difficult to get the young and robust to appreciate sufficiently their good health, to be wary or careful not to do anything to jeopardize it. The careless breaking in of wild bronchos and heedless riding many times produce injuries or lay the foundation of prostatic and cystic troubles, attended by severe sufferings in after life.

But perhaps of the numerous causes that could be mentioned that tend to produce sickness, none are so prolific as our habits of diet—the foods and liquids that we eat and drink, and the

manner in which it is done. The subject of dietetics we have already discussed in recent numbers of our journal, and to those who feel interested we would recommend their perusal.

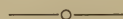
Dress is a very prevalent factor in the production of ailments. In our climate we have very sudden changes at times, and especially the temperature of the night and day. We should be prompt in the change of our clothing to meet these conditions. It frequently happens at this time of the year that persons wait until the storm comes and the cold weather sets in before they look to the shoes and the warm clothing for the children. So it follows that in the time intervening, the exposure of damp feet and the summer clothing being still worn, that the cold is contracted which may last half the winter. It would be difficult to fully estimate all the ills that follow. The general good condition being so much interfered with places the child in a bad state, very impressible to any of the contagious diseases. Attending evening entertainments or parties, concerts or balls, and dressing much thinner, wearing lighter clothing for the occasion, has cost many a young lady her health, has laid the foundations of disease from which she found no relief. The shoes worn are of such a light texture that the moment the foot is placed upon the damp ground an impression is conveyed to the system that lays the ground work of inflammation of some of the vital organs. It is certainly a most excellent practice to wear flannel next the skin "the year round," and change the outer clothing to meet the different seasons.

But the texture of the clothing is

not the only difficulty, the form and shape of our dress has to do immensely, particularly the fashion of the ladies' apparel. You would never suspect from viewing a fashionably dressed lady now-a-days what were the outlines of the "form divine." However, if appearances were only concerned it would not matter so much. It is the pressure of the stays and tight waists upon the abdominal viscera that displaces the vital organs, they have not sufficient room to perform their work. These important structures are drawn out of place. Is it any wonder that a loss of health follows? So grave and serious is this habit and manner of dress of the female sex that the question, "what's to be done?" is agitating to a considerable extent the medical mind. In fashionable and wealthy circles of life such are the conditions of female development brought about by this and other causes that they are almost unqualified for maternity; while in our new country these conditions are not so prevalent, yet the inroads that are being made by the fashions of the times are becoming apparent. The strain upon the nervous system in this fast age does its full share in furnishing causes of disease. This strain is not confined to any particular time of life after the arrival of the school age. The inordinate crowding of the young brain of the school children saps the foundations of physical growth absolutely necessary to the health and good condition of the child. The delicate, sensitive, high-strung, nervous organization of the brilliant student who won all the prizes at the competitive examinations, finished a school life bearing off the highest honors only to

step into an early grave. The prospect of a life's work of grand achievements nipped in the early morn.

There are many social customs and conditions that could be mentioned that figure largely in the encouragement of disease which are equally worthy of our consideration, but we must defer to another time for want of space. If any improvement is brought about in any of these matters we must educate ourselves in the necessity of reform to an extent that will influence our lives sufficiently to make the needed change. Teach our children the great value of preserving health. Let them be instructed in those principles and laws that control and establish the normal state of the body and mind. If this can be accomplished we may hope to see a return of the vigor and long life that man is capable of attaining under favorable circumstances.



CONFIDENCE BETWEEN MOTHER AND DAUGHTER.

BY DR. MAGGIE C. SHIPP.

During my stay in one of the hospitals in Philadelphia my attention was frequently arrested by so many young ladies coming there to receive treatment, and since I have become interested in the practice of diseases of women and know how many of our beautiful daughters are suffering with weak backs, headaches, etc., I have had many serious and sad reflections. Of course we all know that some of our daughters have inherited weak and delicate constitutions, but as a

rule in Utah they are suffering because they are daily violating the laws that govern their being.

They do not appreciate the sentiment that "God forgives, but a violated physical law does not." It may be an easy task to have an intelligent young lady understand that if she buy any piece of machinery it will soon be ruined unless she gives it the required attention. But you may talk to her privately, lecture publicly, give her books to read, call her attention to her invalid friend, and yet so many times, you will fail to arouse a sufficient amount of determination on her part to cause her to stop and think seriously and change her manner of living. If you talk with many married ladies who are now invalids they will tell you that they did not realize in their younger days, that they were by their own heedlessness, incurring such indebtedness, that would have to be paid to the last farthing. And is it not a *sin* to abuse this body and intellect that God has blessed us with? I think it is. Now where is the remedy is the question. And it is a question that I have thought much upon. One suggestion presents itself that I believe will assist in the reform, and that is to have more confidence exist between mother and daughter. On account of this lack of confidence there are many *moral* and *physical evils*. I so often hear this remark, "Oh I can't talk with my daughters, I would much rather talk with any other young lady." I am hardly able to describe the feeling I have for such mothers, for it appears to be a mixed sensation of sympathy and disgust. Again mothers say, "My daughter never confides in me." Why not, mother? The reason is mothers

defer this duty and pleasure too long. Gain the confidence of your daughters when they are little children. Let us as mothers try and recall the sensations and feelings we had when we were young, and make ourselves companionable for the little ones. Sympathize with them in their troubles, let them know we feel for them. Be interested not only in their studies but also in their amusements. Always know where they are, what they play and with whom they play. It is not difficult to win the confidence of a little child. As they grow older be interested in their "love affairs." Remember how you felt when you were first in love. Never make fun of, or ridicule them. Hold their confidence sacred, although secrets may appear trifling to you, to them they are weighty. Well, what has this to do with the health of our daughters? More than pen can write. Every gynæcologist will tell you that "women suffer more from the diseases and derangements of their sex than from any or all other causes."

We should not only tell our daughters what to wear, but *know* what they wear. See, too, they are not wearing cotton stockings on a cold winter's day, and suffering with feet "as cold as ice." I have spent many hours trying to convince my patients that they should wear flannel undergarments and woolen stockings. If I accomplish this much I shall feel I have done a good work.

Mothers, have frequent confidential talks with your daughters, you cannot spend a more profitable hour. Tell them what woman's mission is. And how essential it is that their bodies must be kept free from disease and

weakness to accomplish the grand, noble work God intended for them.

We will have more to say on this subject.

Dr. Phillips says:

"Women are always complaining!"

"Women are forever ailing!" "The women are all sickly nowadays!"

These are among the opinions frequently expressed by men who neither know nor think beyond external appearances or the remarks heard among the women of their own families or acquaintances, and there is certainly more foundation, in fact, for this view, than there should be.

* * * * *

"I am well aware that this is a delicate subject to present in public print—but on the other hand I feel that there is too much prudishness and false modesty regarding such matters and that because excluded from public print and discussion—omitted entirely from all popular works and school text books on physiology—and only in exceptional instances mentioned even between mother and daughter at home—there exists a deplorable and unjustifiable ignorance of the conditions and requirements necessary to health and of the causes of suffering in this direction. I believe that without overstepping the bounds of propriety, without shocking in the least degree the modesty of any true, intelligent-thinking woman, much may be said which may be of value to many who err and suffer through ignorance of the laws they are violating, and mothers may be helped to do their duty in this respect to their daughters as they approach and enter into the realm of womanhood. To such mothers I would especially address myself, and urge upon

them the recognition of the duty they owe their daughters and the power they may, if they will, exert to protect them against both moral and physical evils, by imparting to them a true and correct knowledge of themselves and the conditions and developments for which they should, as girls and women, be prepared."

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THE STORAGE OF LIFE AS A SANITARY STUDY.

The problem was shortly stated as follows: Certain proofs of the power of the human body to lay or store up life to a prolonged period are admitted. What are the conditions which favor such storage, and how can we promote such conditions?

The conditions were stated in the following order: (1) Hereditary qualifications. (2) The virtue of continency. (3) Maintenance of balance of bodily functions. (4) Perfect temperance. (5) Purity from implanted or acquired diseases.

Many details of the effects of heredity were supplied, amongst others that if the ages at death, from natural causes, were obtainable of the parental lives of a man or woman through three generations, the average of their ages—the sum total of them divided by six—might be accepted as the commercial value of the last life. To this rule there were some variations, to the effect that taking the age of sixty as a medium point, the value of the last life was less under that point, greater above it. From this topic the lecturer passed to the study of temperaments as connected with life storage, showing that the bilious and sanguine tempera-

ments are the best for long life; the nervous and the lymphatic the worst.

In treating on the virtue of continency as an aid to long life, Dr. Richardson's argument went completely against the grosser advocacy of the Malthusian doctrine. He maintained that under a proper sanitary and healthful *regime* there would be no danger of, nor trouble from, over-population; that all artificial means to suppress population, even if they succeeded in respect to reduction of numbers, would lead to the development of a feeble race—a process of bad sanitation. The work of the sanitarian, as it is now in progress, is the best calculated to ensure this success, without recourse to any extreme or doubtful method.

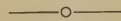
In the third division of his discourse, the speaker dwelt on the sustainment of balance of the working organs of the body as a means of keeping up the storage of life. A body comparatively weak, but with all the organic structures in good balance, is calculated to live longer than a finely made body with one even of its vital organs enfeebled or diseased. Hence the importance of proper and scientific training of both mind and body, training that should become part of the education of every child in every school in the land.

The fourth topic considered brought under consideration what the author called perfect or all-round temperance; temperance in speech, action, thought, as well as in matters of eating and drinking. We may consider that whatever quickens the action of the heart beyond its natural speed and force, is a stimulant; and, in proportion to the unnatural tax inflicted by it is a reduc-

tion of the storage of life. This was illustrated from many points of view, the prime lesson advanced being that every luxurious mode of life, like every fast mode, is of a certainty a shortener of the natural term, even in those who, by the advantage of belonging to a long-lived stock, are naturally fitted for good storage. All luxuries, therefore, are bad for long life; and the luxurious use of stimulants of every kind is detrimental, the alcoholic stimulants being without concealment the most injurious.

The prevention of the damaging diseases formed the last subject of study. Here the art of the sanitarian comes into most effective play; and whoever in the sanitary line of research helps to remove these impediments by getting at and removing their causes, is one amongst the truest friends of humanity, and one who is assisting especially in the storage of life, which must be laid up in the first and retained in the last stage.

Med. Press.



WOMEN AS PHYSICIANS.

There is a prejudice, rife in this world, condemnatory to women as physicians. How it originated, or on what plausible basis it is founded, is truly a subject of wonderment. But prejudice and custom have ruled the minds and actions of generation after generation; the unfavorable arguments have been taken for granted, without question as to their plausibility or rationality, apparently considered so time-honored and sacred as to forbid even the idea of doubt. Now, in point of fact, there are, perhaps, a few considerations against women as

physicians; but an overruling majority of the arguments are in favor of women choosing (and being encouraged) to enter the medical profession.

Medicine is truly a sacred calling, standing shoulder to shoulder with theology. Not that theology and medicine need go together, but there ought to be, in the medical profession, men and women of equally pious principles and kindly feeling; for to stand unmoved in the presence of breaking hearts does not become a being who is made of such material as constitutes an ideal physician. A tear is no index to a faltering hand; a sympathetic nature no sign of professional weakness. There is many a man engaged in the practice of the healing art simply because somebody put him in the medical mill, and he was ground out an M. D. He was not consulted as to the choice of an avocation. Father, mother or friends chose for him. He has got to have bread. He is prepared for no other calling; so he unwillingly and doggedly puts out his sign and announces himself ready to heal the sick. When he has come to the real business of life, he finds out that he was sadly mistaken in the choice of an avocation. He would rather build a house, run a machine, plough, dig ditches, etc. But he has spent the time allotted to preparation for duty at something he hates. He curses those who persuaded him or chose for him, and continues only because he must. If he could get the physician's fee without going to see the patient, he would be glad of it. He has no other interest in going. He cannot enter into the absorbing spirit of his profession with all his power of brain, soul, heart and strength, wish-

ing more to see his patient convalescent than to capture his fee, which is secondary, though, of course, very necessary to a comfortable existence. The Lord makes physicians; the colleges merely qualify or license them. There is many a heaven-made physician among women, but society's prejudices cheat heaven and deprive humanity of its due. There is a place in the great tragedy of life for every one. If one be fortunate enough to have a role that suits him, he will act it with honor, ease and pleasure. If a person's heart is in his work, that work ceases to be a bore and becomes a pride and satisfaction. There is a fork in the road of every life, when turning to the right or left is of momentous and far-reaching importance. If conscience is not a positive guide-board directing plainly which road we shall take, it is wise to camp over night, fast, pray and make inquiries of those who are familiar with the roads, and know in what country or at what cities they terminate. Then let us choose, and proceed untrammelled by that weighty load of doubt which wearies a traveler on a strange, uncertain road.

Now, there *are* women endowed with every ability and persuaded by conscience to pursue the study of medicine and its practice; but many are afraid of censure. It is a mistaken idea that women deteriorate in modesty, gentleness and the tender feminine characteristics by so doing. There is no plausible reason why women physicians should not demand and receive equally strong confidence from their patients as their brothers. It has been urged for so long a time, and so often, that "a woman's judgment is not to

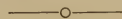
be depended on," men are apt to look upon women as weak, dependent beings, with no executive ability or ideas of their own. But this assumption is not substantiated by the fact. To be sure, a woman's most sublime setting is in the crown of domestic glory; but why should she not have a right to choose a calling as well as man? If she desires to be a doctor, and gives but "a woman's reason," why question her further? Her reasons are apt to be good ones. She may not be able to make them plain to a man who is wedded to prejudice, even if she should make the attempt. There is many a noble woman silenced and made to endure great self-denial in secret because she is afraid of current remarks against women physicians. Men are jealous of their sisters, who would offer them hot competition.

Some claim women to be meteoric in their judgment—brilliant and flashy, but not profound. But some of the most beautiful and profound ideas ever advanced—expressions framed in thrilling and inspired language—claim women as their authors. In short and plain language, women are slaves. They are not appreciated. They are expected to cater to the whims of men, and have no minds of their own; to be ornaments, pets, servants, toys. If they are married, they are expected to carry the brunt of domestic burdens and look after everybody else's comfort but their own.

A home without a woman would, very truly, be a poor affair; in fact, that appears to be woman's most suitable sphere. But that is not the point. Those who prefer home and its humdrum duties are greatly to be

praised. It is a laudable employment. But there are women, born with natures of a different sort, who want to do something else than prepare food for men's ravenous stomachs, rock babies and know no other world than that within the narrow walls of the home. There is an insatiable longing within them to do something in the world beside home duties. If these aspirations turn toward medicine, law, theology, authorship, etc., why do we not say: "I wish you God-speed. You have as good a right as anybody to choose. God has endowed you with equal brain capacity and privileges with men?" Why do we not give such women the warm grasp of encouragement and put no bars in her way? Women will yet turn to the honorary professions, and many other vocations, and fill them with credit. Would she then make a less becoming wife and lose all power of loving, all womanly virtues? Does education and culture tend to destroy amiability? Educate the woman, and there will be finer brains in the coming generations. Brain capacity, as well as disease, follows the law of heredity. Women have long been considered "weak vessels;" but, if loosed from the fetters of prejudice, they would pick out their own thread in the many-colored fabric which is woven in life's loom; their service would be equally recompensed, equally appreciated, and the wicked injustice with which they are judged would be lost in oblivion.

G. W. SQUIRES, M. D.



PHYSICIANS who fail to observe cleanliness should withdraw from the profession.

EDITORIAL OF PHILADELPHIA
MEDICAL REGISTER.

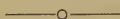
The emancipation of women is, to-day, an accomplished fact, at least so far as the medical profession is concerned. We have now, in Philadelphia, a large number of women physicians who command the confidence and respect of the majority of our population, and are constantly deferred to by many physicians of the opposite sex. Some of them occupy professor's chairs and many are in frequent consultation with their brother physicians who, we are pleased to say, entertain for them the highest deference. There are now at the Woman's Medical College of Pennsylvania, which is located in Philadelphia, one hundred and fifty-five medical students, embracing several nationalities, amongst whom are two colored women. The writer has always favored women as physicians, but must plead guilty to a silly apprehension, utterly unfounded as has since been proven, that only women whose lives presented few temptations in other directions, would be seized with the aspiration to study and practice medicine. There was a consequent expectation of meeting, in women students, creatures of a sterner and less lovely type than the feminine ideal, though this lack of personal grace might be compensated for by rare endowments in other directions. It was with genuine surprise and pleasure, therefore, that we found among the one hundred and fifty-five medical students at the Woman's College as many fresh, pretty faces and attractive personalities as you could find among that number of women grouped anywhere. Indeed, we must confess that the whole body

of students were especially interesting and pleasant to look at, for the pretty young faces were by no means marred by the added grace of an earnest purpose and the "fellow-feeling which makes us wond'rous kind."

Perhaps this observation may seem somewhat frivolous, but we make it because we believe that nothing has stood more in the way of women's aspirations towards medicine than the silly notion that only gawks and guys were to be found in the profession, and that, for a woman to become a doctor, she must associate herself with such monstrous femininity, and perhaps run the risk of becoming assimilated to it. Now all that apprehension is dying out. In our cities, it may be said to have died, though there are still some narrow-minded fossils among whom the ghost of the ancient prejudice still stalks. In the country towns, where the march of progress is slower, women physicians may still be looked upon with the distrust and antipathy which ignorance engenders; but for the most part, there exists to-day no reason why a woman should not study medicine, if she wishes. There are no sensible obstacles in her path. She has equal advantages and privileges with her brother. Nay, more; a physician who has had much to do with women students of medicine says, that in certain colleges they undergo a stricter preceptorship than men do, and that, judging from his own observation while a student of medicine, they study a great deal harder.

In a word then, we hardly look upon women as down-trodden in the paths of medicine. Many, in Philadelphia at least, have reached fame

and fortune by ways that men would be proud to travel. As to the lack of encouragement, of which our correspondent speaks, it is really a minus quantity. If there is no sympathy for the determined soul at home, she can find it elsewhere — enough to live upon; but if she be really bent with all the force of a well-directed aim, encouragement will be to her more of a luxury than a necessity.



THE FEEDING OF CHILDREN.

BY DR. ELISHA TRACY.

It would be natural to expect that the process of nutrition should be carried on most favorably in very young children. They suffer from no disturbing mental influences. The brain is growing, not thinking. It is receiving impressions by the senses, which are only the groundwork of thought. The field is apparently clear for the complete animal enjoyment of nutrition and the result should be perfect animal health.

But how different is the reality! We read of the frightful proportion of children who perish under the age of five years; yet these figures, however appalling, can give no idea of the sufferings that precede death, nor have we any statistics of the injuries inflicted upon thousands who manage to struggle on a while longer, or even drag a burdensome existence into adult life.

The vast majority of children dying in infancy, perish from diseases affecting the digestive organs. Nature's rule for feeding infants is simple enough, and when it cannot be followed implicitly, the nearest to it possible is the best course. Now and

then some one says: "A mother knows best." Yet to any one who is acquainted with the domestic life of the common people, and who sees the extraordinary processes of feeding against which infancy has to struggle, nothing can be plainer than that a mother does not know everything about her child. But real modern witches who bring babies under an evil eye and make them waste away and perish before their time, and the wise and neighborly old women who carry into many an humble home — not an orthodox "broomstick," but a bottle of castor oil.

If you put a little food into an infant's mouth before its teeth begin to appear you will see that, just as at a certain age it does not shed tears when it cries, so now its mouth does not fill with saliva. Why? Because the glands which Nature provides to supply that fluid are not yet in working order. There is no need for it, if the food be that which nature provides, and the growth of salivary glands is as distinct an announcement that a change of food may be permitted, as the growth of teeth.

Everybody can see that an infant has no teeth, and so nobody thinks of feeding it with hard peas; but everyone does not reflect that an infant, having very little saliva, can digest very little starch; starch therefore continues to form a large part of the food of infants. Yet an unbroken grain of starch in a mouthful of boiled or baked potatoes is in every way as difficult a subject for the stomach and bowels as a hard pea. The starch grain is covered by a husk as insoluble without the proper fluid as the covering of a pea; and taken together,

they fill the alimentary canal without affording nutriment, or else give rise to pain and indigestion.

The fact is, that "teething" is only one of several processes which go on at the same time in various portions of the body before the child can fairly take a mixed diet. Now until these changes have fully taken place, not only in the mouth, but in the stomach, in the pancreas and in the bowels, an ordinary mixed diet is positively injurious. It is the common cause of the nervous symptoms, of the stomach pains, of the attacks of diarrhoea and other ailments which are often neglected at the outset, and end finally in death. So absolute and dense is the ignorance on these subjects that it is not uncommon among the working classes for an infant to be allowed at table to taste of anything the family eats.

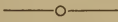
One great cause of neglect of regimen as to diet, and right management of the stomach, is the prevalent superstitious belief in physic. "*Plebs amat remedia*" is an ancient observation, and yet people are to-day as credulous about cures by mere drugs as they were even two thousand years ago. To use medicines to combat the evils of over-feeding, or wrong feeding, is certain to be useless, and not unlikely to be dangerous. None mourn more sincerely over the sufferings of their children than the ignorant mothers who unconsciously inflict their suffering. How great is the sum of agony of which they are unintentionally the cause! But nature is inexorable. With her it is but a question of obedience to her laws, or of suffering the inevitable consequences of our ignorance and neglect.

WOMAN'S MEASURE.

If a woman wishes to know if she is a perfect specimen of her sex she has merely to apply the rule laid down for ascertaining that chiefest fact on earth and figure out the result. As to height tastes differ, but the Medicean Venus, a very good standard of beauty, is five feet five inches in height, which sculptors agree is the most desirable stature for woman.

For a woman 5 feet 5, 138 pounds is the proper weight, and if she is well formed she can stand another ten pounds without greatly showing it. When her arms are extended she should measure from tip of middle finger to tip of middle finger just 5 feet 5, exactly her own height. The length of her hand should be just a tenth of that and her foot just a seventh, and the diameter of her chest a fifth. From her thighs to the ground she should measure just what she measures from her thighs to the top of the head. The knee should come exactly midway between the thigh and heel. The distance from the elbow to the middle finger should be the same as the distance from the elbow to the middle of the chest. From the top of the head to the chin should be just the length of the foot and there should be the same distance between the chin and the armpits. A woman of this height should measure 24 inches about the waist and 34 inches about the bust, if measured from under the arms, and 43 if over them. The upper arm should measure 13 inches and the wrist 6. The calf of the leg should measure 14½ inches, the thigh 25 and the ankle 8. There is another system of measurements which says that the distance twice

around the thumb should go once around the wrist; twice around the wrist once around the throat; twice around the throat once around the waist, and so on; but the first are the measures used by sculptors, who have gained them by measurements of the Greek statues.



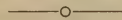
THE SLEEPING-ROOM.

Modern luxury has made sleeping-rooms receptacles for elegant appointments; and we find them filled with numberless articles of fanciful design—knickknacks, draperies, rugs, carpets and every conceivable thing that æsthetic taste can invent. Hence, there can be no pure air in such rooms, and the accumulation of filth and dust is something wonderful. While we would not strip these rooms of all artistic adornment we insist upon simplicity; and, first of all, we would discard heavy woolen carpets. They are filthy; and if the good housewife does not believe it, let her look across the room when the sun is shining through it, and see the line of dust constantly rising. Of course this process goes on night and day, and it is unavoidable when the floor is encumbered with the woolen covering. Let the floor be laid in solid wood—birch thoroughly kiln-dried is perhaps the best—and let there be no cracks or seams for dust and vermin. A few closely woven rugs can be disposed in front of bed and toilet table and these can be removed and shaken every day, while the floor is wiped with a damp cloth. The moral influence of such cleanliness is certainly conducive to sleep, to say nothing of the direct sanitary effects. Bare walls are better

than paper hangings, even when the paper is free from arsenic; and with the soft warm tints at the disposal of the painter, the walls can be made to glow with cheerful light.

Sinks with hot and cold water, connected with the sewerage system, should be discarded for obvious reasons; and in all houses where the fixtures pollute the sleeping room, there should be a complete revolution in their removal. Not one in twenty of these filthy receptacles is securely trapped and with the old devices of chain, plungers, overflow pipes and leaky crevices, we are at variance with all sanitary rules and conditions. Let all such "conveniences" be relegated to the bath-room with open plumbing.

It is better to go back to the old washstand than to endanger the health with any such superfluous trappings. An open fireplace is not only a luxury but a necessity as a mode of ventilation; and then, with iron or brass bedstead, with woven wire bottom and hair mattress, and with simple window shades or shutters, we shall have a sleeping-room combining the requisite conditions for cleanliness and health.



ON THE EARLY RESORT TO OPERATIVE TREATMENT IN OBSTRUCTION OF THE BOWELS.

The result of the discussion at the recent meeting in Washington, upon the subject of the treatment of obstruction of the bowels, may be summed up in the statement that opening the abdomen should be re-

sorted to as soon as evidences of failing strength appear in the patient. Even when the exact nature of the obstruction is not manifest, it is claimed that laparotomy, when properly performed, is comparatively free from danger, and justifiable even when simply performed to establish a correct diagnosis, where the nature of the obstruction is a matter of doubt.

While this is a correct statement of the best surgical practice of the day, and, by pursuing it lives have been saved in skillful hands, we would hesitate before laying it down as safe doctrine for the younger members of the profession, or to teach to a class of medical students, without guarding it with some qualification. The causes of obstruction, as regards the wall of the bowel, may be divided into intrinsic and extrinsic, and the extrinsic causes may be subdivided into (*a*) those within the bowel and (*b*) those without the bowel. While pressure from intra-abdominal morbid growths or from bands of lymph may cause narrowing or even occlusion of the bowel from without in comparatively rare instances, we find that in by far the greater number of cases of obstruction of the bowel, it arises from an abnormal condition of its contents; such as impacted feces, gall-stones, enteroliths, foreign substances, etc., *i. e.*, just the cases that often yield to drastic purgatives, as taught by Trousseau, or to massage. The resort to laparotomy in such cases would only be justifiable as a last resort, after it had become evident that other means have proved inadequate to save life. On the contrary, where the obstruction is *intrinsic*, arising from some abnormality of the wall of the intestine, or *error loci*,

the early resort to laparotomy, before the occurrence of peritonitis or other complication, is clearly advisable. But it is to be noted just here that this class of cases is remarkably rare in this country. Whereas, Treves declares that as many as two thousand deaths occur from obstruction of the bowels annually in England alone. Dr. T. G. Morton pointed out in his remarks before the Congress that it is one of the rarest accidents in this country. In the records of Pennsylvania hospital for more than a century, he had been able to find but one case of fatal obstruction from volvulus. Dr. H. F. Formad wrote to Dr. Morton that, excluding cancer and hernia, he had met with ten or eleven cases of fatal obstruction from pressure upon the colon or rectum, or either ovarian cysts or uterine fibroids, and with only three cases each of volvulus and intussusception in adults that he was aware of. The total number of autopsies made by him, in the capacity of Coroner's physician and Pathologist in the Philadelphia Hospital for ten years, in which the bowels were examined, exceeds six thousand cases. Dr. Longstreth, Pathologist to the Pennsylvania Hospital, also writes that his experience is that intestinal obstructions, excluding tumor pressure, are comparatively rare; and if malignant growths of the lower bowel, and also general peritonitis, with universal adhesions, are also excluded, he would consider it a very rare condition.

The practical conclusion is that cases of bowel obstruction calling for prompt operation are exceedingly unusual, and that the necessity for early surgical interference arises very exceptionally.

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SHOULD INEBRIATES BE PUN- ISHED BY DEATH FOR CRIME?

BY T. D. CROTHERS, M. D.,
Hartford, Conn.

It is a common error to suppose that law and its practice, and the facts and theories of science generally accepted to-day, are final and fixed truths. The fact is not often recognized that theories, creeds, and laws, and their application to the events of life, are only human conceptions of truth. Hence the demand for change and readjustment of the relations of life to conform to the new truths and new facts constantly appearing. Whenever human conduct, thought, and law fail to adapt themselves to these new conceptions of life, great injury and loss follow. The treatment of insanity, medically and legally, has totally changed from that of the past century. A better knowledge of such cases has demanded an adjustment of theory and practice to conform to the new views. The armies of the lawless and defective are no longer concealed by the fogs of superstition. Their origin and march are growing more and more distinct with every advance of the age. The hosts of the insane have been outlined and traced; the idiot has appeared as a growth from distinct causes; the

epileptic has emerged from the theory of being possessed with an evil spirit; criminals are found who are not deceitful and desperately wicked, but the direct products of conditions of life and living; the inebriate, who for ages has been the subject of ridicule and punishment, comes into view as defective and diseased. Thus, from the front lines of advance come new facts, new views, requiring new laws, new adjustments of the theory and practice of yesterday to meet the clearer, wider knowledge of to-day. The farmer must put aside the old implements of his fathers; the merchant must use the telegraph and telephone because correspondence is too slow; the practice of the courts, the theory and treatment of diseases, the teaching from the pulpit, are all changing. The spirit of the age questions and demands reasons for the theories and practices of to-day. It inquires if our methods and theories are destructive or obstructive in the race march from the lower to the higher. My purpose is to show that the death penalty, as a means of punishment for inebriates, is opposed by all the teachings of science and experience, and should be superseded by other means based on a more accurate knowledge.

An outline view of the present legal methods of dealing with inebriates who commit petty crime will make

clear both the destruction and obstruction which follow from the failure to comprehend and utilize the facts which science and experience teach.

Of the estimated half million inebriates in this country, ten per cent are yearly convicted of crime of all degrees. Of this number, two per cent commit capital crime, and one per cent of this number, or about one hundred persons, are executed every year. These statistics are only approximate estimates, but they illustrate in a general way the extent of inebriety, and how far the courts are called to restrain and check it. A study of the local statistics show that in every town and city of this country a large part of the business of courts of justice is the legal punishment of inebriates. The inmates of jails and prisons who are inebriates are variously estimated at from fifty to eighty per cent of the whole number. Year after year the courts administer the same treatment of fine and imprisonment for both inebriety and crime, and yet the number of inebriates is increasing. When this fact is studied, it appears that a species of fatality seems to follow the first legal punishment of inebriates, seen in a repetition of the same offence and the same punishment, with an ever-increasing frequency. In the courts these are called "repeaters," and the number of sentences of the same man for the same crime in some cases extends into the hundreds. In one thousand cases confined on Blackwell's Island, nine hundred and thirty-five had been sentenced for the same offence from one to twenty-eight times before. This fatality seems to start with the first sentence and punishment; and the victim is precipitated lower

and lower, becoming more degenerated and incapacitated, until finally death follows in prison, the insane asylum, or almshouse.

The natural history of such cases is continuous punishment for inebriety, assault, theft, burglary, and petty crime, and finally murder. Each period of punishment is followed by the same or more aggravated crime. The intent and purpose of the law is defeated, and this means of treatment both directly and indirectly increases crime and prepares the inebriate for worse and more hopeless states. The courts and prison officials are powerless, public opinion sustains the law and demands its execution irrespective of all consequences. The poor victims punished to-day reappear to-morrow, under arrest for the same or a worse crime. The severity of the punishment makes no difference. The inebriate who, under the influence of alcohol, commits assault to-day, will do so to-morrow, and next year, and so on, as long as his inebriety continues. No legal punishment of fines and imprisonment can stop him. The facts are sustained by the experience of all courts and prison officials. They are also equally true in the death punishment of inebriates for crime.

When the crime is the direct or indirect result of inebriety, it is only the natural outcome or logical result of conditions of brain disorder and surroundings. The assumption that inebriety is always a voluntary condition, within the control of the person, is a most fatal error. On this error is based the death penalty. Its practical failure is apparent in the increase of capital crime by inebriates. The inebriate who has been arrested

for petty crime while intoxicated many times before, finally commits murder in the same conditions, and is executed. His friends and companions do the same thing and suffer the same penalty. Thus one brutal murder committed in a state of intoxication is followed by another equally brutal, and the execution of the murderer makes no diminution in the number of similar crimes that follow. In every daily paper appear records of the same murders by inebriates under the same circumstances. A wave of public vengeance may dispose of the criminal by lynch law, or only be satisfied when he is hung, but the same murders are committed again by the same class of men. This is only the repetition of the same blunder of fining and imprisoning inebriates for inebriety and petty crime. In both cases the victims are destroyed, and similar offences are increased rather than diminished. In one case imprisonment and fines make the inebriate more incurable and less capable of change of life and living; in the other, the execution of the inebriate leaves a brutalizing, combative influence and a form of contagious glamor that defective brains are powerless to resist. These are the facts which experience and observation fully confirm, and which the latest teachings of science explain and point out.

To-day it is known that the action of alcohol on the brain and nervous system is anæsthetic and paralyzant. The use of alcohol to excess, at intervals or continuously, always numbs and paralyzes the higher operations of the brain; the over-stimulated heart reacts, and depression and feebleness follow. All the senses are disturbed

and become more or less incapable of transmitting the impressions which are received. The brain is incapable of accurately comprehending the nature of acts and the relation of surroundings when under the influence of alcohol. The palsy which follows from this drug masks all brain action. Delusions of vigor and strength appear; events and their consequences and motives and conduct are all exaggerated, misconceived, and misinterpreted, and the brain is unable to correct them. The pronounced delusions, illusions, delirium, mania, imbecility, and stupor seen in states of intoxication, are only the advanced stages of brain conditions which begin with the first glass of spirits. The early changed conduct and speech of men who use spirits are the first symptoms of the paralyzing action of alcohol. More spirits are followed by more paralysis, and finally all judgment and experience, and all distinctions of right and wrong, of duty and obligation, are confused and unreal. The supposed brilliancy which follows from the use of spirits is unreal and transient—it is the glamor of the mind which has lost its balance and is unable to correct itself. No other drugs are known whose paralyzing effects on the higher brain centers are so positive and insidious. The inebriate and moderate drinker have always impaired brain force and nerve power. The automatic nature of their life and brain-work may cover up this fact; but change the surroundings and demands on the brain, and its incapacity appears. Every toxic state from alcohol more or less permanently impresses and debilitates brain integrity.

The fear of the law and conse-

quences of acts make little impression in such cases. The brain is anæsthetized and crippled, and cannot realize events and their nature and consequences. The crime committed by an inebriate cannot be the act of a healthy brain. The more pronounced his inebriety and the longer its duration, the more positive the disease and incompetency to reason and control his acts. The effort to fix a point in all disputed cases where sanity and responsibility join insanity and irresponsibility, is an impossibility which every advance of science demonstrates. It is equally impossible to use alcohol to excess for years and have a sound, normal brain. It is impossible in such a case to fully realize the nature and consequence of acts and obligations. It is a legal fiction to suppose that a crime committed while under the influence of alcohol was the voluntary act of a sane man. It is a legal fiction to suppose that a sane man would plan a crime and then become intoxicated for the purpose of executing it. It is a legal fiction to suppose that premeditation in crime committed by inebriates is evidence of sanity and consciousness of his acts. These are some of the facts of science which bring additional evidence of the error of capital punishment in such cases.

A study of the crime committed by inebriates amply confirms the fact of brain incapacity and disease. Thus in cases of capital crime by inebriates, delusions, illusions, morbid impulses, and epileptic explosions, are common symptoms. In many cases capital crime is the result of peculiar circumstances and sudden strains on the enfeebled brain, or the possession of a morbid impulse, a delusion, or illusion

that suddenly dominates the mind; also epileptic explosions, that are real attacks of maniacal fury and unreasoning. Alcoholic somnambulism or trance is present in many cases. The mind in these cases is oblivious to all outside influences or considerations, and is subject to every passing impulse that may come from either external or internal causes. At the time no general indications of unconsciousness may be present, yet a certain automatic line of conduct and history of crime give clear hints of brain enfeeblement. All crime by inebriates will be found associated with concealed or open delusions, morbid and epileptic impulses, and sense deceptions. In all these cases the brain is unsound and cannot act rationally and clearly. There are present in these cases either insanity of inebriety or the inebriety of insanity. The inebriety of the prisoner has merged into insanity, or some concealed insanity or brain degeneration has developed into inebriety or dipsomania. The death penalty to such cases has no horrors. It is rather welcomed. The struggle for life is the attractive publicity that makes a hero of the man, and the mystery of the end of life intensifies the interest to the last moment.

A summary of the facts we have outlined would sustain the following statements:

1. The legal treatment of insanity has changed in obedience to a more accurate knowledge of the brain and its diseases.
2. The legal treatment of inebriety is unchanged to-day. Although it occupies two-thirds of the time of courts, all teachings of science and a

larger knowledge of the inebriate and his malady are ignored.

3. The ruinous error of punishment by fine and imprisonment of inebriety, and petty crime associated with it, which notoriously increases and perpetuates the inebriate and criminal, is a fact demonstrable in every community.

4. Thus public opinion, through mediæval theories and laws, is training and preparing a class of inebriates who first commit petty, then capital crime, with a certainty which can almost be predicted.

5. The death penalty for such crime utterly fails for the same reason. The execution of any member of this class simply opens the door for an army already prepared and trained to take their places.

6. From a scientific study of these cases, it is clearly apparent that they are diseased and incapacitated to act sanely. Alcohol has palsied the brain and made them madmen. The very fact of continuous use of alcohol is evidence of mental impairment and unreasoning act and thought.

7. To hold such men accountable for their acts, and by punishment expect to deter them from further crime, and by such punishment check others from similar crime, is an error which both scientific teaching and experience point out.

8. The object of the State, through the law, is to protect society and the individual; but if the execution of the law-breaker fails to accomplish this end, the laws are wrong.

9. The unfounded fear that the plea of insanity in crime, and the failure to punish, is an encouragement

for further crime, is flatly contradicted by statistics.

10. Among the mentally defective, the insane, and inebriates, the death penalty is followed by an increase rather than a diminution of crime.

11. The inebriate should never be hung for crime committed while under the influence of alcohol.

12. This method of punishment is never deterrent, but furnishes an attraction for other inebriates who commit similar crime in the same way, following some law of mental contagion.

13. The inebriate murderer should be confined the rest of his life in a military work-house hospital. He should be under the care of others, as incapacitated to enjoy liberty and incompetent to direct his thoughts or acts.

14. A change of public sentiment and law is demanded, and a readjustment of theory and practice called for. The criminal inebriate occupies a very large space among the armies of the defective who threaten society to-day, and his care and treatment must be based on accurate knowledge, not theory.

15. Inebriate murderers should never be placed on public trial, where the details of the trial are made prominent, or the farcical questions of sanity are publicly tested. They should be made the subject of private inquiry, and placed quietly in a work-house hospital, buried away from all knowledge or observation of the world.

16. The contagion of the crime and punishment would be avoided, and his services might repair some of the losses of society and the world.—*The Medical Record.*

THE FREE USE OF WATER AS A THERAPEUTIC AGENT.

The opinion that the civilized races are too sparing in the use of drinking water has been advanced during the past few years by some of the leading therapeutists of the world, and the idea that this proposition is correct has taken a considerable hold, not only upon the majority of the members of the medical profession, but through them has permeated to the more intelligent of the laity. Water is said to be a solvent of more substances than any other fluid, which is nothing more than might be expected if we consider its vast importance in the whole system of nature.

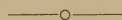
Now, the unsparing use of this solvent may be looked upon as the surest method of flushing the system, and of keeping the various organs and their ultimate histological elements in good working order.

Regarding the use of waters at spas and mineral springs, there can be no doubt that the complete change in the mode of life which frequenters undergo while taking a course at one of these resorts, has as much to do with the favorable results obtained as the inhibition of quantities of nasty sulphurous or chalybeate water. The rest and freedom from work and worry is perhaps more needed by the worn out merchant or jaded politician than is iron or alkalies. Indeed this principle is now so widely recognized that sanitariums are springing up in places where no medical properties are vaunted for the waters. To ladies who have gone through a "season," with its many anxieties, its intense excitement, and its reversing the periods of

rest and wakefulness, the change also to an out-door life, pure air, healthful exercise, lessened excitement, and pleasant, easy-going life at the seaside or health resort, is just what is needed to restore the over-worked nervous system to its proper balance, and give that sense of lightness and well-being which can only be felt when all the organs and tissues of the body are thoroughly depurated. Doubtless the waters at medicinal springs, taken in large quantities, are beneficial to many forms of disease. Why is it, however, that with all the refinement of analysis of our chemical laboratories brought to bear upon mineral waters, with a positive knowledge of their every constituent, even down to three decimal places in grains, that we are not able to get the same good results from the administration of such remedies, when artificially prepared as we get when prepared in nature's laboratory? We can prescribe any or all of the salts found in the most noted springs of the world, to be taken out of a spoon with the utmost regularity; we may regulate the diet, the sleeping hours, the amount of work, even, which shall be indulged in by our patient, and yet get no such results as are got at health resorts. The difference in results is believed to be due, leaving out the advantage gained by the change of scene, air, etc., already referred to, to the greater dilution of the remedies contained in the natural waters. We said just now we could order our patient's remedies to be taken out of a spoon. If we ordered them taken out of a large tumbler, we should have better results with many of them. There is not enough plain water taken by most of us, especially in cities and

towns. For social reasons women refrain from drinking water, and so often do men. Our working population, afflicted by no such restraints, and prompted to quench their thirst by plentiful draughts of water, are much better off in this respect. Such people rarely need a sojourn at a spa, and, indeed, get much of the benefits which visitors to such resorts obtain, by drinking largely at home. It flushes the system, bathes every tissue, dissolves and removes the products of tissue metamorphosis, keeps the skin more active, stimulates the kidneys to the removal of waste matter, and unloads the emunctories generally, and so leaves the cells in the best condition for functional activity, unclogged by surrounding debris and able to perform their respiration freely and naturally. Thus it not only removes old, worn-out matter, but paves the way for the reconstruction of new material, and the whole system is, as it were, from day to day rejuvenated. This explains the popular idea that drinking much water increases the weight of the body, which, under many circumstances, is absolutely true. Fuller pointed out the necessity of ordering large draughts of water when administering chalybeates. Ringer speaks of water as being a "true tonic, improving the vigor of the body and mind." The tumblerful of cold water every morning is an excellent hygienic measure; it washes out the stomach, clearing its membrane of mucous which would hinder the free secretion of the gastric juice, acts locally as a tonic to the gastric walls, stimulates the action of the bowels, and is, as Fothergill says, "a true hematinic, by its removal of waste matter, which hinders histogen-

esis." The same writer also states that the difference between no results from the administration of iron and satisfactory treatment lies in no more than this, the free use of water as a diluent. —*The Canada Lancet.*



EXPERTS TELL OF ALCOHOL'S DEADLY EFFECTS.

The "Alcohol Ward" of Bellevue Hospital, New York City, is that department of the great institution to which inebriates from all parts of Manhattan Island are consigned for treatment. The physicians and surgeons of this ward, as can be readily understood, through experience with hundreds of cases yearly, are experts upon the deadly effects of alcohol, and their views, in every way practical and devoid of sentiment, are worth studying. The following is a condensation of a long interview with one of the physicians at Bellevue:

All classes of workmen, keepers and clerks of hotels, public houses, eating places, salesmen and the professional politician furnish the largest part of patients coming in for treatment. Cabmen, expressmen and hucksters also go to excess in drinking. The rules on ferry and railroad companies exert a restraining influence upon their employees, and there are few cases among them in the course of a year. Men cooks in hotels drink heavily, as a rule. Monotony of occupation, as seen in the case of shoemakers, printers and the like, when accompanied by close ventilation and long hours of toil, exert a very strong predisposition to alcoholic excess. Lack of something to do is, on the other hand, a

great factor in promoting drunkenness, as is the case with many men about town.

INFLUENCE OF HEREDITY.

Many persons who drink heavily are predisposed to the habit by heredity, one or both of their parents having been addicted to drink. The effects of having drunken ancestors are often seen in their descendants by epilepsy, insanity, alcoholic excess, etc. Various forms of disease have an influence on this habit. Many conditions of chronic disease attended by suffering are in many cases temporarily relieved by alcohol. This is very often to be found in the case of consumption and chronic malaria, but it has in some cases been the means of inducing the drinking habit.

HABITS AND SURROUNDINGS.

Much must be attributed to habit. Business men are liable to contract the drinking habit as well as those who have no business. The custom of going out with a new customer to "take something" is the starting point with them. Wine is the least harmful of alcoholic drinks. Much of the stuff sold under that name, even at high prices, in all parts of the globe, is an artificial mixture of alcohol, sugar, ethereal essences and water.

Alcohol is very rapidly taken up by absorbent surfaces. It is but slightly, if at all, taken up by the unbroken skin. Under ordinary circumstances it is by the way of absorbents and veins of the gastric mucous membrane alcohol finds its way into the blood. Having entered the blood it reaches all organs of the body, and in experiments has been recovered by distillation not only from the blood itself, but also

from the brain, lungs, liver, spleen, kidneys and various secretions. Some authorities say the brain has an affinity for alcohol.

PHYSIOLOGICAL ACTION OF ALCOHOL.

The elimination of alcohol is at first rapid and afterward gradual. It begins shortly after ingestion, and in the course of two or three hours one quarter or more of the amount taken passes away from the person who has taken it. Elimination for the most part takes place through the kidneys, the lungs and the skin. In large doses alcohol increases the heart's action. Frequent repetitions tend to permanently impair activity of the peripheral circulation. Hence the vascular tinge and rubicund nose that characterizes the physiognomy of the habitual drinker. The very worst and most harmful time for a man to take a drink is when the stomach is empty. The action of alcohol in moderate doses, and under circumstances free from complications, is to increase the functional activity of the brain. The ideas come more freely, the senses are more acute, the speech fluent and the movement more active. These effects are accompanied by the increased action of the heart. Without modifying existing traits of characters, such impulses call them into action and lead to the accomplishment of deeds otherwise impossible. Fat accumulation of the drunkard is due in part to the starchy matters and sugar taken in with malt liquors.

HOW ALCOHOL DESTROYS.

Alcohol destroys the body little by little, when it is indulged in to excess, and any man who drinks so much each day can count upon the fact that he is

shortening his life as certainly as he shortens the length of a cigar, if he is smoking one. Under the use of this drug the face becomes red and the eyes brilliant. The future is full of hope, the past has lost its sorrows and regrets. The powers of expression are brought into fullest play, conversation becomes animated, brilliant—ofttimes sparkling and keen. Reason is thrown aside, the judgment relaxed, vanity, pride, rashness assert themselves. Emotions, sentiments, habitually repressed, are oftentimes manifested without reserve. The speech degenerates into loquacity, improper confidences are made, indiscretions committed, the bent of disposition is made clear; he who is by nature sad grows sombre, he who is irritable becomes cross, the generous man grows lavish, and the good fellow is every body's friend.

AT TIMES THE TIMID MAN

becomes violent; the refined, coarse; and the gay, melancholy. If the influence of alcohol be pushed beyond this point, a gradually increasing vertigo is associated with dulled imagination and blunted senses. The will power is almost lost. The baser passions are aroused, evil impulses and illusions of all kinds sway the drunken man. All control of conversation and action at length becomes lost. Reason is displaced by delirium, and he becomes a maniac, dangerous alike to himself and to others, and liable upon some sudden impulse to commit the most atrocious crimes. The face betrays the profound disturbance of the intellect and moral nature; its expression is changed and its lines are blurred. The flush deepens, the veins are distended, the arteries pulsate visi-

bly, the eyes are staring and the pupils are contracted.

LATER SYMPTOMS.

The breathing, at first quickened, becomes irregular. The heart action is rapid, bounding, and sometimes there is palpitation. Somnolence soon deepens into sleep. There are three varieties of acute alcoholism. The first is marked by self-satisfaction and content, the second by sadness and melancholy. In the third the period of excitement is wanting and the drinker passes rapidly into a state of stupor. The intoxication produced by malt liquors is dull and heavy, slow in coming on and is of long duration. Intense excitement, anger or mortification is said to increase the action of alcohol. Sudden change from a warm to a cold atmosphere also intensifies the action. In maniacal forms of alcoholism the outbreak is sudden. The attack is characterized by maniacal excitement, usually of a furious kind. The patient is impelled by the wildest passions and seeks to destroy whomsoever and whatsoever he can lay hands on. He is so strong in limb during these attacks that it takes several strong men to hold him down. In this form of the disease a word is enough to bring on the most terrible fits of passion.

After a time the patient falls into a delirium, and if he recovers he has not the slightest recollection of anything that has transpired.

CONVULSIVE ATTACKS.

There is another form, known as the convulsive patients, who throw themselves on the ground, roll from side to side, bite at people, knocking

their heads against the floor or wall in the most terrible manner. Among these people are madmen whom it is dangerous to approach by reason of the violence of their movements, but they are much less dangerous than those suffering from the maniacal form of acute alcoholism. The insane, imbeciles, epileptics and persons suffering from nervous diseases are, as a rule, very susceptible to the action of alcohol. Upon examination of the bodies of persons who have died by accident while drunk, deep congestion of the brain is noticed almost in every instance. The lungs are congested, so also are the kidneys, liver and spleen. The stomach usually contains alcohol and undigested food. The blood itself is often dark colored. The heart is empty and contains a few soft clots.

EXCESS IN DILUTED DOSES.

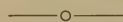
More common are the cases in which death is produced by excessive doses of diluted alcohol taken at once or rapidly repeated. This happens under various circumstances, as when a man avails himself of an opportunity to satisfy his appetite, when a bet as to the number of glasses he can drink in quick succession or in a given quantity at once, when a man is already drunk is plied by his companions for pure devilry.

SUICIDE BY ALCOHOL RARE.

Suicide by this means is, in the ordinary sense of the term, rare. The crime has been committed upon infants and children, and is murder. One or two fluid ounces is fatal to a child below the age of ten years. The prolonged abuse of alcohol brings

about changes which affect alike the body at large and its various structures. Degenerations of the tissues and the functions of the body are certainly produced on the mouth and throat. The action of alcohol upon the mucous membrane brings on a catarrhal inflammation. Ulcer of the stomach is a common result. Dyspeptic symptoms are common. The steady drinkers of spirits, of whatever kind, present the largest proportion of diseases of the liver. Congestion of the liver is an early lesion. Chronic jaundice is usually present. Fatty degeneration of the liver takes place. The spleen is enlarged, soft and pliable. Habitual alcohol drinkers are far more liable to pneumonia than others. Insomnia is an attendant upon alcoholism. The taste is impaired and sometimes wholly lost and smell is greatly impaired.

Loss of intellectual power comes last. The first indication that presents itself is the diminution of vivacity and readiness. Timidity and loss of confidence in one's self is another affection which follows in the wake of this unfortunate habit. Self-respect is finally lost, and the memory fails little by little.—*Herald of Health*.



SELECTIONS ON THE SUBJECT OF FOODS AND BEVERAGES.

“When we boil bones or scoops of meat or fish, to make a soup we extract considerable of gelatinoids, fats and other substances of them. The gelatine in the soup thus made, like the dried gelatine we buy in packages and use for jellies, is, of course, very valuable. It will not take the place of meat because it

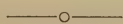
cannot do all that is done by the albuminoids which the meat contains. But it does part of their work; and if it cannot make flesh it does what is next best in that it saves flesh forming material from being used up. One moral of this is that bones are worth saving for food. In experimenting to find how much nutritive material is extracted from bones in making soup, as it is ordinarily prepared in the household. Dr. Konig found that beef bones from which the flesh had been removed, yielded from 6 to $7\frac{1}{4}$ per cent. of their weight of material, of which about $4\frac{1}{3}$ per cent. was fat and the rest nitrogenous matter. That is to say, from a pound of bone about an ounce of nutritive material was obtained, of which three-fourth was fat and the rest gelatinoids and the like. But it must be remembered that the bones which the butcher trims out of meat, or which are left on our tables or in our kitchens, usually have a good deal of adhering flesh. This is apt to amount to several times as much as the material extracted from bone itself."

"Just what the extractives do in helping to nourish the body has long been a physiological puzzle. At times they appear to aid digestion. It is certain that they have some effect upon the nervous system. When one is weakened by illness or exhausted by hard work they are wonderfully invigorating. They were formerly supposed to furnish actual nutriment, but the tendency of opinion in later years has been to make them simply stimulants, and the experiments within a short time past have indicated very clearly that they neither form tissue nor yield energy; that, indeed,

they practically pass through the body unchanged, and are not food at all in the sense in which we use the word. In other words, when a convalescent invalid drinks his beef tea, or a tired brain worker takes meat extracts with his food, though he is greatly refreshed thereby, and really benefitted, the extractives neither repair his tissue nor furnish him warmth or strength. But in some unexplained way they help him to utilize the other materials of his body and of his food to an extent which, without them he could not do. Beef tea and meat extract are strengthening, not by what they themselves supply, but by helping the body to get and to use strength from other materials which it has."

"Bread and milk have been the food of infancy so long that it is like speaking against the pulpit cushions to object to them. But bread and milk or porridge and milk after a child is four years old should not form the staple food that it does in many strictly kept nurseries. This diet makes plump, fair, stout children, but it also makes stupid ones. It always seems as if girls brought up on this conventional diet had curds for brains. Nervous girls dislike it for they need essence of meats to supply their craving nerve fluids. Milk, too, is so susceptible of taint and so ready for carrying disease that in ordinary conditions it must be a relief to know how excellently broths take its place. Well-seasoned broth of beef, mutton or fowl, thickened with fine oatmeal or cracked wheat, cerealine or farina, or finely cut vegetables, is an ideal food for children and girls, who are also the better for lean, fresh meats boiled or broiled once a day. * * * *

“Boarding schools for both girls and boys do great harm to young constitutions by monotonous, insipid fare. The sedentary life, when two hours’ exercise to six or eight hours’ study exactly reverses the right proportions for most girls and many boys, is fed on corned beef dinners, with rice or cornmeal as a vegetable, codfish breakfasts, and suppers of hot biscuit, cookies and cheese. The craving and faintness felt by growing girls, especially nervous ones with quick, large brains, is a sign that nature is taxed to its utmost to keep up with study or intense thought, and at the same time perfect physical development. Girls of a sensitive temperament are studying their busiest just at an age when they should be living an easy, active life, learning to grow flowers and embroider them, to sing, to draw, to dance, to converse, how to keep house and having a good time till they are twenty, when they can take up the serious studies in earnest if they choose. The instinct of girls to have a good time in spite of everything is their salvation from the entire nervous wreck which school systems propose for them. A girl can learn and retain more in three hours’ study a day than she can in seven, and the mind receives better training by taking up few studies at a time and fastening on them than by the modern public school method of skipping about topics, hardly two days on the same study in a week.”



Never neglect to calm those suffering mental shock by a cheerful word and personal presence.

CURIOSITIES OF FOODS.

The old saying that what is one man’s meat is another man’s poison is realized in the opposite tastes of people. The Turks shudder at the thought of eating oysters. The digger Indians of the Pacific Coast rejoiced in the great locust swarms of 1875 as a dispensation of the Great Spirit, and laid in a store of dried locust powder sufficient to last them for several years. The French will eat frogs, snails and the diseased livers of geese, but draw the line at alligators. Buckland declares the taste of boa-constrictors to be good and much like veal. Quass, the fermented cabbage-water of the Russians, is their popular tipple. It is described as resembling a mixture of stale fish and soapsuds in taste, yet, next to beer, it has more votaries than any other fermented beverage. A tallow candle washed down with quass forms a meal that it would be hard to be thankful for.

In Canton and other Chinese cities rats are sold at the rate of 50 cents a dozen, and the hindquarters of the dog are hung up in the butcher’s shop alongside of mutton and lamb, but command a higher price. The edible birds’ nests of the Chinese are worth twice their weight in silver, the finest variety selling for as much as \$30 a pound. The negroes of the West Indies eat baked snakes and palm worms fried in fat, but they cannot be induced to eat stewed rabbits. In Mexico parrots are eaten, but they are rather tough. The Guachos of the Argentine Republic are in the habit of hunting skunks for the sake of their flesh. The octopus, or devil fish, when boiled and then roasted, is eaten in Corsica and esteemed a delicacy.

In the Pacific Islands and West Indies lizard eggs are eaten with gusto.

The natives of the Antilles eat alligator eggs, and the eggs of the turtle are popular everywhere, though up to the commencement of the last century turtle was only eaten by the poor of Jamaica. Ants are eaten by various nations. In Brazil they are served with a resinous sauce, and in Africa they are stewed in grease or butter. The East Indians catch them in pits and carefully wash them in handfuls like raisins. In Siam a curry of ant eggs is a costly luxury. The Cingales eat the bees after robbing them of their honey. Caterpillars and spiders are dainties to the African bushmen. After they have wound the silk from the cocoon, the Chinese eat the chrysalis of the silkworm. Spiders roasted are a sort of dessert with the New Caledonians.—*Pacific Record*.

In the healing of burns and scalds, where there is danger of contracting scars, rub the new skin several times a day with good sweet oil. Persist in this rubbing until the skin is soft and flexible.

BUTTER.—Doulaux has published interesting results of his investigations. According to them, butter consists of 93 per cent. oleine, margarine and stearine. 4.4 per cent. butyrine, 2.5 caproine, 0.1 per cent. capryline and caprynine, and, as stated by Chevieul, the centenarian, contains even when fresh some free butyric acid. In beginning rancescence, butyrine is first to be decomposed, as a result of the spontaneous decomposability of glycerids; it is retarded by salts, accelerated by water, light and

air. Butter absorbs oxygen, at first without a corresponding formation of carbonic acid, which is formed later together with formic acid.—*La Pharmacien*.

HYGIENE OF INFANCY AND CHILDHOOD.

BY T. B. GREENLEY, M. D.,
Of West Point, Ky.

This subject presents itself to the mind as one of vast magnitude, too great to be embraced with proper lucidity in a paper like the present, whose dimensions must necessarily be limited. It also outlines to our view a subject of greater importance than any, or perhaps all, others that concern the welfare and happiness of the human race. For it may be said, without health there is no real happiness in this life. If children are puny and grow up with impaired functions of the various organs, they cannot become healthy adults and beget healthy offspring. It goes without saying, that without healthy parents we cannot have healthy children. The definition of "Hygiene," or "Sanitary Science," is well given by Dr. Mapother in his "Lectures on Public Health." He describes it "as an application of the laws of physiology and general pathology to the maintenance of the health and life of communities, by means of those agencies which are in common and constant use." Of late years a great impulse has been given to preventive medicine by such men as Smith, Chadwick, Playfair, Farr, Bowditch, Bell and others; so much so that some are induced to believe that it is of modern origin. But students of the Old Testament and ancient history are famil-

iar with the fact that some knowledge of the laws of health existed in olden times. The Mosaic code gives definite directions for the cleanliness of the person, the purification of the dwelling and the camp, the selection of wholesome and the avoidance of unwholesome food. The seclusion of persons with contagious diseases, the regulation of sexual intercourse at certain periods, and certain other points bearing on the physical well-being of the Jewish nation. The Greeks and Romans, although not like the Jews, making hygiene a part of their religious duties, were far from neglecting it. "The laws of Lycurgus," says Dr. Gairdner, "are not wanting in very pointed enactments on sanitary matters, and the importance attached by all the Greek republics to physical culture is too well known to require remark." The Romans, in their early history, found time to construct the Cloaca Maxima, an indestructible and stupendous memorial of their attention to the drainage and sewerage of their city. "At a later period aqueducts were made to cover miles upon miles of the surrounding plains. They also paid attention to the construction of houses so as to secure free ventilation and drainage." In order to effect these sanitary measures they appointed State physicians. But it seems, as Christianity spread, less attention was given to means of preserving health. The monks prayed, established hospitals and distributed alms in the way of food and clothing, but had no idea of preventing disease; and when an epidemic arose, regarded it as a manifestation of divine displeasure and as a punishment for sin. They had no conception that such calamities could

result from uncleanness of person and filthy surroundings. During the Dark Ages filth predominated over premises and persons, and ignorance and superstition reigned supreme. It is said no bathing was done from the eighth to the fifteenth century, which time might appropriately be termed the dirt period of the world's history.

In discussing the subject before us, I shall endeavor to speak, of course briefly, of the various conditions surrounding the life and infancy of childhood, the proper kind of food and nursing, and incidentally allude to some of the causes on the part of the parents which engender weakly children. There are many causes now in force, most of which may be assigned as being due to what is termed advanced civilization, or fashionable life among women, which not only curtail vital statistics, but account for the bad health or delicate constitution of the offspring they may bring forth. I can only refer to a few of the most common of these. A great many fashionable women do not wish to be encumbered with children, and use means to prevent conception; should they fail in such devices, they resort to measures to destroy the embryo. The idea is prevalent with many that using means to prevent pregnancy cannot impair the general health; but it is known to observers that it tends to develop both general and local trouble. It ultimates locally in congestion and inflammation of the genital organs, which eventuates in many cases in general neuroses. We may have ovaritis, dysmenorrhœa and uterine neuralgia, attended with severe attacks of hysteria. These conditions also frequently follow the production of

abortion, should the mother be so fortunate as to escape fatal results.

It is stated by Dr. Storer, in an address read before the American Academy of Arts and Sciences, that these habits among the women in Massachusetts are so prevalent that the birth-rate among the native women is far below that of the death-rate; that "the immense proportion of living births to the pregnancies in the foreign as compared with the native and Protestant population is to be explained by the watchful protection exercised by the Catholic Church over foetal life. However we may regard the dogma on which this rests—the sanctity of infant baptism—there can be no question that it has saved to the world millions of human lives." The argument results, that in a comparatively short period of time the old Puritan stock will disappear, and the population become Catholic. The confessional may also exert a conservative effect in this regard.

It is not my province in this paper to speak of legal enactments against such misdemeanors. Of course there could be no legislating against using means to prevent conception, but the laws already in force against producing abortion might be made more definite and stringent. It seems to be a prevalent opinion, not only among the people, but with some jurists and legislators, that the production of abortion does not constitute a crime unless committed after what is termed viability of the embryo, which is regarded as being the middle of pregnancy. The minds of the people should be disabused of this fallacy, and a higher moral sentiment in this particular inculcated; for it is evident to the

minds of all physiological students that as soon as fetation is established the life of a new being is commenced, and its destruction at any time should be regarded as a crime of great moral magnitude, and punished accordingly. It would be well to heed the admirable sentiment of Percival, who says: "To extinguish the first spark of life is a crime of the same nature, both against our Maker and society, as to destroy an infant, a child or a man." In his investigations Dr. Storer learned that abortions were more prevalent in Massachusetts than in any other state, or in Europe; and further remarks, "that the statistics of that state show that from 1850 to 1855 the frequency of abortion, as compared with the still-births at the full time, was at least eight times as great as in the worst statistics of the city of New York."

The mode of dressing among fashionable women also tends very greatly to impair the general health. I allude to tight lacing, deficiency of clothing in cold weather, thin shoes, etc. In a word, it might be said that a woman who holds strictly to the tenets of fashionable life is incapacitated from bearing and rearing healthy children. I only speak of these matters as a cause of weakly constitutions in children without referring to any constitutional taint or disease a child may inherit, as the consideration of diseased children is not within the province of this paper. * * *

Now, after considering the great mortality of infancy, the question arises, What can we do as sanitarians and medical men to modify or curtail it? Can we do anything? The solution of these questions consists mainly

in the proper management of the first year of life. Much attention should be given in selecting a proper location for a residence. The house should be built on elevated ground, where due drainage can be effected, and where the soil is such as not to retain moisture near the surface. Dr. Parkes says a gravelly hillock is the most healthy. The house should be well ventilated, with a temperature between 70° and 80° F. Especially should this be the case in extreme infancy, as no doubt many infants have been lost on account of low temperature. One case came under the observation of the writer. An infant, as soon as born, should be well wrapped in a blanket previously warmed, and allowed to remain so until the room is thoroughly warmed and everything made ready for washing and dressing, which should be done as soon as practicable by the fire or stove, and then placed in bed close to the side of the mother. Precautions of this kind will save the child from the effects of cold on its air-passages, and may also save its life. The room where the mother and infant dwell should be commodious, and preferably in the winter with windows looking toward the south. The ventilation is best made at the top of the windows and draught avoided. Open fireplaces, grates and Franklin stoves are regarded as being more healthful than tight stoves. The moisture of the atmosphere of the room should be noticed. If a cellar is under the house, it should be kept perfectly dry, and no vegetable matter allowed to remain in it in a state of decay. Dampness under or around the sleeping apartment is regarded as very deleterious to health. In cities care

should be exercised in keeping out all noxious gases. Many times the atmosphere of a room may be contaminated by deleterious gas, which is only evident to the sense of smell. It is said that one of man's greatest enemies is his own breath; this being the case, it is essential that we should have sufficient breathing room as well as ventilation. A man exhales a half cubic foot of carbonic acid per hour. A single gas-burner liberates five cubic feet in the same time, being equal to ten men. A fire burning in a grate emits some impure gases, and abstracts from the air of the room as much oxygen as twelve men. Thus it will be seen how essential it is to have the family room well ventilated. In close rooms it would be well to have the windows open both at the bottom and the top, say one inch for each occupant. Many diseases result from breathing impure air, one of the most common of which is consumption. In malarious districts it is advisable to sleep in upper apartments. In this way noxious exhalations which linger near the earth's surface may be avoided. The management of infants the first month is very important; during this time the mother is unable to give her child due attention. The care of it should be committed to a nurse of judgment and experience, one who knows how to wash and dress the child properly. It should not be kept too long at a time from its mother's breast, but allowed to nurse as often as every two or three hours. The mother, in the meantime, must have nourishing and digestible food. In fashionable life of modern times it has become, lamentably, of too frequent occurrence that mothers, as soon

as their children are born, turn them over to the "nursery" and outside nurses, either wet or dry. In the latter case, of course, it takes the bottle, which, perhaps, after all, is nearly as good as a majority of the wet nurses, who frequently have children of their own who no doubt in many cases get the larger portion of milk, while the *motherless* mite goes hungry. I have always thought that a mother who could be so heartless as to turn over her child to the tender mercies of a stranger to be nursed was devoid of proper maternal instincts, and committed a crime against true womanhood, if not unintentional infanticide. Civilization has, it would seem, developed some evils as well as many enjoyments.

The most important things to be observed in the management of infancy are food and manner of feeding, clothing, temperature and cleanliness. Of course there are many minor things to be considered, such as proper handling, pure air, etc. All agree that the mother's milk is the proper diet for an infant when in good health, and next to this cow's milk. Quite a difference of opinion prevails as to how much the latter should be diluted with water. * * *

As the first month of infancy is the most delicate period with those who are fed artificially, a close supervision should be exercised over their digestive functions, and if any impairment occurs it should be immediately corrected. If a new-born infant sleeps well between meals we may be satisfied that it is digesting its food; and, if it is wakeful and fretful, with distended bowels, its food is disagreeing with it, and it needs attention. When fed

with largely diluted milk it may, from hunger, eat too much at a time and suffer from distended stomach. At such times the nurse is induced in many instances to give it some preparation of opium in order to quiet it, instead of changing the food. We must see that the food is sufficiently nourishing, and that it is properly digested. In cases where the mother is unable to nurse her infant, or does not afford sufficient supply, I am in the habit of giving cow's milk undiluted, taking care that fermentation is prevented. In order to avoid this with certainty, fresh milk should be obtained and special attention given to washing the bottles and tubes as soon as empty with warm water and soda. If it is found that indigestion results from formation of curd in the stomach, the milk should be boiled or a little lime water added. I have also had good results in this particular with the addition of fluid lactopeptine, and also with peptinoids.

It will always be found that the child will be satisfied with a much less quantity in bulk when the milk is given undiluted, and the danger from distended stomach is avoided.

Any means which can be used as prophylaxis against the occurrence of affections of the stomach and bowels, which are the great bane of childhood, will prove a godsend in the salvation of infant life. These affections—to wit, cholera infantum, diarrhœa, etc., are mainly due to improper feeding and high solar temperature. The question here arises, What can be done to alleviate a child from the deleterious effects of excessive solar heat? It now behooves us to be more careful than ever about the child's food, so as

to prevent disorder of the stomach and bowels from that cause. Of late years river and lake excursions have been inaugurated in order to get the benefit of a breeze produced by the motion of the vessel when the air is still. It is said this means has proved very salutary; but it is comparatively convenient only to a few children to take advantage of this means of sanitation.

It is a well-known fact that warm air in motion cools and vivifies one when greatly oppressed with heat, although it does not produce a lowering of the temperature. How grateful to our feelings, when almost overcome with heat and fatigue, it is to be fanned rapidly in the face! Now, could not this knowledge be utilized in the construction of large fans to be used in the room of the infant during the heat of the day? Of course it would be attended with some expense and labor; but these, when put in comparison with a child's life, have but little significance. The labor part might be abridged by the use of cheap machinery to keep the fans in motion. This would also be of great utility in the sick room in hot weather. Any means by which we can tide the infant over its first year should be regarded as of momentous importance.

When an infant is taken out of bed to be dressed or washed, the room should be thoroughly warmed to near its own temperature, or the babe taken close to the fire. In a word, an infant should never be allowed to get cold. Children born in cold weather should wear caps. This precaution will, in many instances, prevent the taking of cold,

resulting in chronic discharges from the ears and nose. In case of inability or unwillingness of a mother to take charge of her infant, great caution should be observed in selecting a nurse; if a wet one, it should be ascertained that she is healthy, that she is of good moral character, and possesses an amiable temper. The lives of many infants are sacrificed by the neglect and cruelty of nurses. Many times when the child cries on account of hunger the nurse will give it some opiate or alcoholic liquor to quiet it in order to obtain leisure time for herself. The habit of giving infants opiates or spirituous liquors every time they cry is a very pernicious one. It is almost impossible to have an infant properly cared for in every particular, independent of its mother's attention. The amount of clothing for an infant before it can sit alone is not so important, as it is kept in bed most of the time, but after that great care should be exercised in this regard, so that it will not be exposed to the variations of temperature. I have already alluded to the temperature of the lying-in room, and the care of keeping the child warm. It is very important that the infant should not be exposed to draughts of air. It should never be taken out in cold weather without being well protected by sufficient clothing. With proper precautions an infant should be washed all over once a week in winter and oftener in warm weather. It is said that "a clean and ruddy skin shuts the gate to many diseases." The position of a young child should be attended to. In its first months the bones of the head are not sufficiently

united to hold the brain in its proper shape, and if the child is allowed to remain too long in one position the head may become flattened, or larger on one side than the other. Its position, on this account, should be changed every time it nurses.

After children are over one year old they do not need such close observation on the part of parents or nurses, especially as it respects diet and feeding, the main things now being proper clothing, cleanliness and protection from harm. When they arrive at school age it should be seen that they are not pushed in their studies too rapidly. They should not be confined too long at a time at their lessons, but allowed to take due amount of exercise. Close confinement and what is called cramming have undermined and ruined the health of many children. This plan, no doubt, has paved the way for many cases of nervous disease. The school-room should be sufficiently large to afford ample breathing room for its inmates, and be well ventilated. The light should not be so glaring or brilliant as to unduly contract the pupil, or so dim as to unnaturally dilate it. Owing to these causes many imperfect eyes are engendered. It is specially so in regard to myopia, due to insufficient light. In some schools half the children have been found to suffer from myopic eyes. The seats should be so arranged as to afford support to the back. In the country a great many school-houses are supplied with mere benches without backs, thus keeping small children humped up six or eight hours a day, which may produce spinal trouble or deformity.

Children should be encouraged to

take a certain amount of exercise daily, but not allowed to carry it to excess. In the more active forms of muscular exercise, injury may result from protracted exertion. Heart troubles have resulted from jumping the rope and from what is termed prisoner's base, etc., when protracted for too long a time. After the exercise is over the boys should put on their coats before cooling off, and not sit in the draught of air.

Contagious Diseases.—Prophylaxis should be used as much as possible to avoid the spread of contagious diseases. Every child before it is a year old should be vaccinated, and at any subsequent period, should the community be threatened with small-pox, re-vaccinated. Should measles or whooping cough appear in a neighborhood, especially in the fall or winter months, isolation should be rigidly enforced. It is in cold weather that these diseases prove so disastrous to childhood. Scarlet fever and diphtheria being of epidemic origin, we must ascertain the cause and remove it, and not allow intercourse of sick with well children.

My chief object in writing this paper is to call the attention of physicians more particularly to the management of infancy during the first year, and at the same time to impress them with the necessity of instructing their *clientele* to be more diligent in watching the effects of food on the digestive apparatus. I think it is in the power of every physician to save one or more lives of infants annually by the exercise of a careful supervision of this character, and this would add one hundred thousand to the population of our country every year.—*American Practitioner and News.*

Salt Lake Sanitarian

A MONTHLY JOURNAL OF MEDICINE AND SURGERY,

Devoted to the prevention and cure of diseases and injuries, and the promulgation of the laws of health and life.

DRS. SHIPP, EDITORS.

SALT LAKE CITY, DECEMBER, 1888.

EDITORIAL.

THE EFFECTS OF INCARCERATION UPON THE BODY AND MIND.

I doubt if I shall be able to give any adequate expression to the feelings I had when I emerged from my imprisonment into an atmosphere of liberty. If I had failed in my previous life to fully appreciate the blessings of freedom, had not duly estimated the privileges of free institutions and the government under which we live, "where a man can do as he pleases if he'll do no wrong." I felt I was now fully prepared to value these blessings.

On the morning of December 1st when the guard drew the bolts and permitted me to pass from the iron cell that had been my abode for long, weary weeks on to the massive gates in the high walls that enclosed the prison, and when these swung open and "let the captive free," then it was I tasted and enjoyed the very essence of liberty and freedom. It mattered not as to the causes that led to my incarceration, no difference if I had been punished, entombed and buried away from the living world because I could not renounce honest convictions and sever sacred ties, because I could

not break solemn covenants and cast from me hearts that are dearer to me than life; however satisfied I might be with myself that I had gone to prison rather than violate my religious principles, yet these considerations did not bar my soul from basking in the sunlight of life and drinking at the delicious fountains of "being free once more."

We rejoice that after an absence of three months we are enabled again to assume the duties and pleasant relations we before held with the patrons and readers of the *SANITARIAN*.

Our incarceration in the Utah penitentiary commenced on the 18th of September last; our liberation occurred on the first inst.

From our own personal experiences and observations we had upon others during imprisonment, we have been enabled to draw some conclusions as to the effects that "prison life" has upon individuals, especially as regards their health and the impressions made upon their minds. We purpose giving you some of our reflections upon the subject.

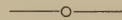
There are two classes of prisoners in the Utah penitentiary, named by themselves "toughs" and "cohabs." The "toughs" are those who are serving sentence for the convictions of offences that they themselves consider crimes, and no doubt their penalties were just, unless it might be in very rare cases, although it is no unusual thing to hear them prate about the "poor lawyer," "unjust judge" or "unfair trial."

All grades of criminals are found in this class, from the murderer and rapist to a man that only picked up a piece of rope that did not belong to

him and walked off with it (there was perhaps a calf or a horse at the other end of the rope). There are many among these that are low and groveling in their instincts. The habits of dissipation and the practices of "secret vices" have left their impress. They are almost wrecks stranded upon the shoals of fallen humanity. If they were turned loose they would only return to the mire, resort to the dens of infamy, indulge in the intoxicating bowl, their brains crazed with fiendish desires, they would inflict upon the world a repetition of their crimes. To such imprisonment is an advantage. The prison discipline gives a regularity to their habits of life, they are preserved from the use of intoxicating drinks, they are "secure at nights," no dissolute "pal" can intrude into their "safe abode" under the shades of night to tempt them forth to deeds of violence and the commission of crime. For once they are leading honest lives. But on the other hand, the lazy, listless, lifeless life they are compelled to lead in prison augments the temptations to vile practices. There is nothing about prison life that of itself inspires the heart to noble action. The position crowds upon every noble attribute of manhood. Self-respect is gone. Under these depressing circumstances they seek gratification in debasing pollutions that leave their impress upon their depraved countenances and pallid faces. There are many young men ranging in ages from sixteen to twenty-five serving terms of imprisonment for crimes of various degrees. These young men are thrown into the company of those older and more hardened in crime. Such contact is neces-

sarily debasing. Such associations are not expected to have a very healthful influence upon their moral character. Young and vigorous manhood dwarfs under restraint; the situation preys upon their minds; their spirits are depressed. Brooding over their unfortunate condition effects their nervous system—indigestion results—intestinal troubles manifest themselves, it may be diarrhœa or constipation. This state of things naturally brings on sickness and disease, as fevers, erysipelas, etc. It appears that in prison life everything tends to further degrade the corrupt—nothing favors reform. The taint of incarceration is apt to follow their after life.

We will write of the other class, "the cohabs," in a future number of the *SANITARIAN*.



THE INFLUENCE OF THE THEATRE UPON THE PUBLIC HEALTH.

As long ago as 1856 an elaborate essay upon the relations of the theatre to the public health was written by M. Bonnaire of Paris. The author was at the time justly criticised for his extravagant denunciations of playhouses, which, excepting the opera, he considered to be little better than pesthouses in their influence upon the human body. Since Bonnaire's day occasional comments have been made upon the subject, but it has hardly received the consideration which it deserves. Artistic and moral questions are those which the drama chiefly excites. Our attention has been called to the subject now, however, by a number of instances communicated to us, which show, if that were needed,

that the theatre bears a relation of no inconsiderable importance to preventive medicine.

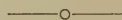
It is not the question of protection against fire, which especially concerns the sanitarian. Even the results of sitting for two or three hours in overheated and ill-ventilated halls, or of passing from these, while thinly clad, into the open air, are of a minor importance and do not concern us now.

The influence of theatre-going upon the young and immature of our cities is a matter, however, which does claim thoughtful attention. We venture to state most positively that this influence is bad. With a nervous system still unformed and unstable, the excitement of the melodrama or tragedy, the late hours, the precocious ideas, the distorted and often false notions of life and character presented, all tend to act injuriously both upon mind and body. In the larger cities there is always among the better classes a great number of silly stage-struck girls, whose nervous system, already unstable, is made more so by a fondness for theatre-going, or a secretly nursed ambition to become actresses themselves. Occasionally these city maidens become affected with a passion for a particular artist, which develops into an epidemic. Witness the popularity of an actor, not long deceased, of only moderate abilities, but of more than ordinarily pleasing appearance. The abnormal devotion which he excited was strictly comparable, though less grotesquely accentuated, to the dancing epidemics of the middle ages. That such perversions and exaggerations of youthful emotion may excite hysteria, chorea and a varied train of morbid nervous symptoms was the

claim of M. Bonnaire, and may be in part allowed.

Among the humbler classes who attend the spectacular and murderous melodrama, or the licentious variety shows which make up the programmes in cheaper resorts, similar pernicious effects follow. We do not speak of the moral side, but only of the physical. The premature excitement of the sexual passion, the unhealthy stimulus given to the emotions and the imagination react upon the body,

It is quite universally agreed that stimulants injure the young and immature in a special degree. Remembering that the drama is a psychical stimulant and often one of great intensity by very poor quality, parents and perhaps even the state should be called upon to be careful how indulgence in it is allowed.—*Selected.*



THE TEMPERATURE OF OUR FOOD AND DRINKS.

Of all nations the American is most in the habit of taking his food and drink at a temperature as remote as possible from that of the body. Ice-water drinking is a national habit, and ice-cream is a national dish, predilection for which runs through all classes of society, and becomes a binding force in social, and, we might add, scientific and religious gatherings. Americans should, therefore, take an interest in the experimental researches on the temperature of our food and drink made by certain foreign savants whose names are, as is usual, hyperplastic with consonants just in proportion to the rigidity of their science and the seriousness of their inquiries.

The temperature of our food and

drinks was treated of by Von Spath and Kostjurin a year ago (*Munchener Medic, Wochenschr.*, 1886, p. 533), and more recently by Uffelmann, of Rostock (*Ibid.*, 1887, p. 999).

Professor Uffelmann reviews the work of his predecessors, and draws his conclusions partly from this, and partly from his own experiments. They bear first upon the temperature of ingesta in health, and the rules laid down are:

1. That, in general, a temperature of food and drink which approaches that of the blood is most healthful. For nurslings such temperature is essential.

2. For quenching the thirst, the best temperature is from 50° F. to 68° F. The favorite American temperature is, as is well known, 32° F., and an issue is raised at once between Professor Uffelmann and the American nation.

3. The ingestion of very hot or cold food or drink in health has a damaging effect, which is increased just in proportion to the rapidity with which the hot or cold substance is taken. Hence the gulping down of ice-water or hot coffee, etc., means eventually, according to the light we are quoting, a mere ventral damnation. If a person takes a drink for the purpose of warming himself, as in cold weather, he can accomplish this by having the drink at a temperature of 116° to 120° F.

4. The use of very hot and cold substances, following or alternating, is injurious to the teeth. But the taking of cold water lessens the injurious action of extremely hot substances upon the stomach.

5. Ingestion of cold food and

drinks lessens the bodily temperature, whether it be normal or febrile.

6. Cold fluids lessen the hyperirritability of the stomach.

Cold ingesta raise the tone of the stomach, increase peristalsis, and promote movement of the bowels. Cold food and drinks increase the tendency to cough, according to Uffelmann, by causing reflexly a congestion of the bronchial vessels. Hence, persons with bronchial diseases ought not to indulge in cold drinks. It is, however, a common custom to give persons who suffer from pulmonary hemorrhage ice to swallow; and, according to the view stated, this would be an injurious practice.

Hot food and drinks stimulate the stomach more than cold. But after the repeated use they lessen the tonus of the digestive tract, and cause congestion and dyspepsia. This condition has been observed after the so-called hot-water cure. Hot drinks tend to lessen bronchial irritation, and this is one cause, possibly, of the success in some cases of the hot-water treatment of consumption.

Medical Record.

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TURPENTINE IN DIPHTHERIA.

We have, on several occasions, referred to the use of turpentine in diphtheria. Recommended originally in Germany, and claimed to be almost a specific, it was there, also, that the employment of the drug was subjected to the most severe criticism. Some recent publications have again drawn attention to the alleged value of this substance, and most remarkable among these is an article by Dr. Roese, which appeared in the *Therapeutische Monatschrifte*. The author

asserts that he has employed turpentine in diphtheria for the past four years. In that time he lost only five cases out of sixty that came under treatment. Two of the fatal cases concerned infants one year old, who appeared moribund when first seen, and died a few hours later. The other fatal cases were also unusually severe from the start, two dying in thirty-six hours, and one surviving five days. This is certainly a note-worthy record, as diphtheria statistics go.

The oil of turpentine was administered in drachm-doses, three times a day. Sweet spirits of nitre was used as a corrective, in the proportion of one part of the spirits to fifteen of the turpentine. Symptoms of intoxication were never observed by the author. In addition to the turpentine, a two per cent. solution of sodium salicylate was given every two hours, in tablespoonful doses. A gargle of chlorate of potash solution was likewise employed whenever possible. Under this plan of treatment rapid amelioration of local signs and constitutional symptoms was observed. Usually improvement began at once, and it was rarely necessary to push the drug beyond five or eight doses. It should be remarked in this connection, however, that a very generous and stimulating fluid diet (strong broth, port wine, milk, etc.) formed a feature of Dr. Roese's plan of treatment.

Those who are inclined to be sceptical with regard to the utility of medicines in the severer forms of diphtheria (and the profession contains many such) will scarcely accept the author's figures without challenge. On the other hand, for the very reason that

violent diphtheria ordinarily justifies so gloomy a prognosis, we are ever ready to employ any means at our command which may possibly reduce its frightful mortality. There is no reason, therefore, why the turpentine treatment of this disease should not be given a fair trial.

ICE HOUSES.

The American Architect advises :

1. The ice house floor should be above the level of the ground, or, at least, should be sufficiently above some neighboring area to give an out-fall for a drain, constructed in such a way as to keep the floor clear of standing water.
2. The walls should be hollow. A four inch lining wall, tied to the outer wall with hoop iron, and with a three inch air space, would answer; but it would be better, if the air space is thoroughly drained, to fill it with mineral wool, or some similar substance, to prevent the movement of the air entangled in the fibers, and thus check the transference by convection of heat from the outside to the lining wall.
3. A roof of thick plank will keep out heat far better than one of thin boards with an air space under it.
4. Shingles will be much better for roofing than slate.
5. It is best to ventilate the upper portion of the building. If no ventilation is provided, the confined air under the roof becomes intensely heated in summer; and outlets should be provided, at the highest part with inlets at convenient points, to keep the temperature of the air over the ice at least down to that of the exterior atmosphere.

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No. 1.

THE CARE OF THE SICK.

BY THE EDITOR.

There are many things that the sick man is interested in that are essential to his recovery. He wants good, fresh air, and plenty of it. He can not hope to progress favorably and rapidly if he does not secure sweet, refreshing sleep and rest. There must be a state of tranquility pervade his mind, free from worry and anxiety, if he hopes to get along well. And many other things could be mentioned that would prove of great advantage to him in his sickness. His doctor, if he have one, should be an honest, conscientious, skillful practitioner. But in the whole list that might be written it would be difficult to point out a factor that has more to do in the process of recovery than how the patient is fed. As a rule, there is a great lack of understanding among the masses upon this vital matter. What with drugging, patent medicines and improper alimentation, it is not to be wondered at that so many sick people do not fare any better. Throw away your "trashy stuff" and learn how to feed your sick folks, and the margins of the "undertaking business" will be perceptibly narrowed.

Let us see what is taking place in the condition that attends a sick person. All diseases are accompanied by more or less fever, which causes great changes in the economy. Professor

Bartholow tells us that "the febrile state induces serious changes in the constitution of solids and liquids. The interstitial fat disappears from the tissues, which become soft and watery. The muscles become flabby and pale, and decline in contrastile energy. Digestion is feeble, or suspended or abnormal, and the food supplied is either rejected or enters the blood in an imperfectly prepared state. The blood suffers material alterations; the red corpuscles diminish in number, the fibrine increases, and the products of imperfect tissue-metamorphosis, (the continual changes or processes that are taking place in the living organism—Ed.) accumulate. The urine is usually scanty and high colored and loaded with uric acid and urates. * * In the tissues the seat of organic alterations rapid but imperfect metamorphosis ensues, and on the one side pathological materials crowd the interstices in the anatomical elements, and on the other side the products of waste struggle for elimination. The organs and tissues of the body undergo a granular disintegration, or, as it may be stated, the increased temperature of fever represents an enormous consumption of the nitrogenous elements."

The higher the fever the more extensive is this destruction of the vital forcés. In this condition of waste and consumption of the elements of the body by the inflammatory processes, or in other words, the ravages

of the disease, the most important consideration is to replenish or keep up the supply to meet the demands made upon the tissues by the tax levied.

There is but one way that this can be accomplished, and that is, to furnish the body those elements that are being consumed and destroyed, and it must be done in a way that they can be used or appropriated. You will not find those ingredients in drugs and medicines, in patent nostrums and "cure alls," such things as are advertised in almanacs and costly circulars. No, *you will have to go to the foods* to obtain them. That food has to undergo the important process of digestion before the elements requisite can be assimilated or appropriated by the various organs or tissues of the body. The disease has crippled the digestive track and enfeebled the digestive powers, so that it becomes a grave question what shape the constituents in demand can be presented so as to be most readily taken into the circulation where they can be utilized.

There is a different state of things existing in the body in different diseases. However, some foods are more appropriate in some ailments than in others; what would be very desirable and beneficial in one case would be quite the reverse in another. So it will be fortunate for the patient if the nurse understands the business. "In fevers and inflammation not of the digestive track (says the author before quoted) the most useful aliments are milk and beef-tea. These should be given at intervals determined by their rate of digestibility—usually about every three hours. Fresh milk only should be used, and, if the stomach be irritable it may be diluted

with one-half to one-fourth of lime water. It has been conclusively demonstrated that fresh milk is the most suitable aliment in *typhoid*, and it may be depended on wholly. It is equally applicable as the aliment in *scarlatina*, partly as a nutriment and partly as a diuretic, for in this disease one of the chief dangers is from arrest of the urinary secretion."

Beef tea as an aliment is inferior to milk and is harder of digestion, but it answers as a change and encourages the poor appetite, that sometimes exists. There is not the nutriment in beef tea that many people suppose. There is another fallacy prevalent in domestic practice, viz., that when the beef tea cools if it gelatinize it is especially rich. But it's a mistake, the gelatine has but very little value as a support to the waning powers of the patient in a low state of fever. In such extreme cases *there is nothing better than milk with a little pure brandy*, if stimulants are not contra-indicated. In the low state of fevers when the digestive powers are feeble, when it becomes necessary to tempt the appetite, animal broths become an important article of diet. They can be prepared according to the following formulæ:

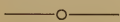
BEEF TEA.—A pound of lean beef, should be freed from fat, tendon, cartilage, bone, and vessels; it must be chopped up fine and put into a pint of cold water to digest for two hours. It should simmer on the range or stove for three hours, but the temperature should not exceed 160° Fahr. The water lost by evaporation should be made up by the addition of cold water, so that a pint of beef tea should represent one pound of beef.

It should be strained, the beef being carefully expressed. A wine glass full every three hours is a suitable quantity for administration in ordinary acute cases.

MUTTON BROTH.—Lean loin of mutton, one pound, exclusive of bone; water three pints. Boil very gently till tender, throwing in a little salt and onion, according to taste. Pour out the broth into a basin, and when it is cold skim off the fat. It can be warmed up as wanted.

CHICKEN BROTH.—Skim and chop up small, a small chicken or a half of a large fowl, and boil it bones and all, with a blade of mace, a sprig of parsley, and a crust of bread, in a quart of water, for an hour, skimming it from time to time. Strain it through a coarse cullender. The digestibility of these broths is improved by the addition of pepsin and munatic or lactic acids.

A beef essence may be prepared by pounding finely divided beef in a mortar until the nutritive elements are separated from the fibre, which may be given instead of the broths. It can be mixed with a little good wine or brandy. In serious cases of sickness there should be great regularity and method in giving nourishment. Not to administer more than will be comfortably retained by the stomach. And in the very low state of affairs particularly in *typhoid*, the feeding should be attended to at regular intervals during the night as well as through the day, especially in the early morning hours.



He has a fortune who has good health.

INEBRIETY.

BY T. D. CROTHERS, M. D.,
Hartford, Conn.

From a study and comparison of the histories of many inebriates, inebriety would appear to be only one of a family group of diseases. The other members of this family are found to be various forms of insanity, epilepsy, idiocy, hysteria, consumption and brain and nerve affections. These allied diseases often precede inebriety or follow after, and are always associated with a great variety of degenerations.

The magnitude of inebriety exceeds all estimates, and in all probability is about one to every one hundred and fifty persons. The mortality is estimated at ninety per cent. The increased consumption and production of spirits in this country, beyond the increase of population, and the steady increase of persons arrested for intoxication, are very significant hints of the growth of inebriety.

It is evident that a disorder so widespread must have an equally wide range of causes. It is also apparent that a knowledge of these causes must come from the study of the history of a large number of cases. Such a study must record all the facts of heredity, of the early surroundings, training, growth, accidents, diseases, strains, drains, shocks, losses, climate, food, social and physical environment, and all the various influences which have entered into life. From a large number of such histories many of the principal causes will appear. Thus, from the records of one hundred inebriates, representing all classes, sixty will be found with a defective brain and nerve organization from inheritance. Thirty or more of

this number will have moderate or excessive drinking parents or grandparents. Twenty will have insane, epileptic, criminal, pauper, idiotic or eccentric ancestry. Ten will have consumptive, rheumatic and diseased parents. Of forty who have no prominent history of heredity, twenty-five will begin after attacks of severe disease or physical shock or injury, mental shocks or great brain perturbations, and other similar causes. In ten cases the inebriety can be traced to climatic states, to foods and occupation. In five cases no special causes can be determined; this is obviously the fault of the observer, which a better knowledge will remedy. In all these cases there is often a blending and union of causes; thus, head injury and diseases with heredity are united. In another case, conditions of climate, food and occupation are prominent. Nutrient disorders, overwork and exhaustion, or mental strain and heredity, may all be found associated, and all active in the causation.

A close examination will show how exact these causes are, and the laws which govern them. Thus, in direct heredity, moderate, excessive or periodic drinking parents are always followed by inebriate children, either in the first or second generation. The first generation will be either inebriates or rigid abstainers, and always have marks of defect of some kind. The second generation will develop inebriety from the slightest exposure. Unless the stream of heredity is neutralized by a current of great vigor, this generation will be found along the border line of insanity, manifesting many complex symptoms of mental defect.

In these cases some specific degeneration of the brain centers has been transmitted, with special tendency to use alcohols for relief, and low-resisting power to all temptations of this kind. Many of these cases escape, and never use alcohol, but they have marked defects of body and mind.

Many inebriates are found to have defective parentage, representing all degrees of insanity, eccentricity and mental oddities, or criminal and paupers, with low intelligence and defective characters, hysterical, ungovernable passions, and unbalanced organizations. Inebriety in the children of such characters is only another phase of degeneration. Here the drinking impulse springs up almost spontaneously from slightest cause—a physician's prescription, the excitement of contagion, etc.

Where the parents are consumptive, rheumatic, or have some serious constitutional disorder, inebriety frequently appears in the children from most insignificant causes. In these cases a defective brain and nerve vigor exists, which seeks relief from any source at all hazards.

Another class of inebriates will develop the drink-impulse after a head injury—where they are made unconscious by a blow or a sunstroke; or where they have suffered from severe and protracted sickness, or sustained some profound shock, either mental or physical. Fright, fear, joy, sorrow, falls of all kinds which produce sudden impressions on the organism, seem to lower the vigor and call for relief from alcohol or opium. Some change has taken place in the brain centers, and while alcohol and opium bring temporary relief, they hasten

and increase the form of degeneration.

In these cases the drink impulse may be pronounced from the first use of spirits, or it may grow up more or less rapidly and unconsciously to the victim. Of course, not all who are subjected to such injuries become inebriates. Many recover without any entailment; others develop insanity, epilepsy and various degrees of degeneration.

Inebriety is a cerebro-physical disease, whose pathology is very obscure.

Whatever tends to innutrition aims directly at that strength and balance of the forces of the brain, that co-ordination, so to speak, between its peripheral and central portions, that is needful for the equable discharge of its multitudinous functions. Innutrition, by lowering the vitality of the brain-cells, diminishes the store of power held by the central ganglia from steady and well-timed responses to all demands upon them, into spasmodic, irregular and insufficient supplies of the force which it is their province to furnish. But alcohol especially promotes innutrition; and the very stimulation which it produces is the surest evidence of its drain upon those reserve forces, that exuberance of the central nervous fund, that wealth of power, which are indispensable to the maintenance of the full vigor of the constitution during those brief and rare occasions when unforeseen circumstances shall make unusual demands upon them.

Nor is this exhaustion and innutrition all the evil which alcohol works in the constitution. The blood and secretions are vitiated and loaded with material foreign to their normal con-

stitution, and there is a universal departure from that almost infinite delicacy of balance, resiliency of organization, which characterizes the natural healthy state, to say nothing of that depravation of the higher spiritual nature which is the inevitable concomitant of the habitual deviation from natural methods which is forced upon the brain. Nor is this all of the evil. How unreasonable it is to suppose that children begotten of a parent during such exhaustion of the ganglionic force—during such prolonged vitiation of the blood and secretions and the perversion of the intellectual and moral forces—should not carry in their physical and spiritual natures evidence of the outrage done to natural laws.

As to treatment, inebriety can only be effectually checked in special work-house hospitals where the inebriate can be treated and restrained. Such places should be located remote from cities. They must have the best appliances and remedial means to build up and restore their inmates. They should be conducted on a military basis, and all surroundings should be under the exact care of the physician, and every condition of life regulated with steady uniformity. There should also be industrial asylums where each one could be employed both in body and mind every day. Each case should be an object of study to ascertain the real state and the means to strengthen and improve it. These hospitals should be built from the license fund or the taxes on the sale of spirits. They should, in a large measure, be self-supporting from the labor of the inmates, and independent of the tax-payers. These

places would most naturally divide into three distinct grades. The first class of hospitals should be for recent cases, where the inmates can be committed by the courts, or voluntarily commit themselves for one or two years. The second class should receive chronic cases for longer terms of treatment—from one to three years. The third class should be for the incurables, or those who give no reasonable promise of restoration. The time should be from five to ten years and life.

The latter class should be thoroughly organized into military habits of life and work, and kept in the best conditions of forced healthy living. Employment and mental occupation should be carried out literally as a stimulus to strengthen the body and mind. Where it is possible the rewards of his labor, beyond a sum to pay for care, should be turned over to the patient's family and friends, or held in trust for him. He should be encouraged to healthy work and healthy living by all possible means and surroundings.

The semi-chronic cases should be treated substantially the same way, only occupation and training of the mind and body should be more suited to the wants of each case. The amusements should also be of a sanitary character.

The recent cases should have the same exact discipline, filling the mind with new duties and new thoughts, and suited to build up the exhausted, overworked man, as well as the gormand and underworked idler. All persons should pay for their care, if possible, and be required to render some service, which would be credited

on their bills. These hospitals should be literally quarantine stations, where the inebriate can be housed and protected and society saved from the losses following his career.

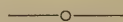
In conclusion: All accurate study of the inebriate indicates a distinct range of causes, both physiological and psychological, from which inebriety springs.

When the histories of inebriates are compared, they are found to follow a regular line of progress, obeying a certain order of events, from the beginning, development, progress, decline, on to extinction.

This march is governed by conditions and forces of which we have only a faint conception. Heredity, disease, injury, starvation, neglect are only the general names for some of these forces.

In the cure of inebriety, all study of cases points to a physical causation to be removed by physical means.

Work-house hospitals as quarantine stations, where every condition of disease can be treated, give the greatest promise of relief. Here the victim is removed from all exciting causes, and protected from himself and others; and here we can understand some of the causes beyond the saloon, and so-called free will, and deceitful heart.—*Albany Medical Annals*.



NUSSBAUM recommends the application of an ointment containing equal parts of lanolin and ichtyol in the treatment of erysipelas. He covers the affected area with salicylated wool, and claims to obtain a painless cure in three days.—*Medical Press*.

THE CAUSE AND TREATMENT OF INFANTILE ECZEMA.

BY JOHN V. SHOEMAKER, A. M., M. D.

Professor of Dermatology in the Medico-Chirurgical College of Philadelphia.

Infantile eczema is one of the most common diseases of early life. It is always a distressing and frequently an obstinate affection, remaining for weeks or months; but, as a rule, it is much more amenable to treatment than the eczema of adults. It may occur at any period during infancy, but it is most frequently observed during the first six months of infantile life, at the time of weaning, and during the process of dentition.

It may appear in a variety of forms. In some cases it is characterized by the development of a variable number of erythematous spots or blotches upon the face, scalp, and other portions of the body. In others the eruption is purely papular; in still others it consists solely of vesicles situated upon a reddened, inflamed base, or both lesions may be intermingled. The pustular variety is characterized by the formation of pustules of various sizes, either alone or commingled with vesicles, papules, and vesico-papules. The disease may involve any or all portions of the integument, but it most frequently attacks the face, scalp, neck, chest, buttocks, and the upper and lower extremities. It pursues a variable course. The papular and erythematous forms usually disappear by resolution, but they may pass imperceptibly into the chronic squamous stage of the disease. The surface then presents a dull-red infiltrated appearance, and is covered with a number of minute epidermic scales.

The vesicular and pustular varieties rarely terminate in resolution. As a rule, the vesicles and pustules burst within a few days after their development, exposing a raw, weeping, bleeding surface, from which a sero-purulent fluid exudes, and dries into large, firm, yellowish crusts. When the scalp is the seat of the eruption, the hairs are matted together by the exudation, and the entire scalp becomes covered with yellow masses, forming the condition known as *crusta lactea*. As the disease progresses the irritation increases, so that the inclination to scratch the parts becomes almost irresistible, and patients tear the surface with their finger-nails even while asleep. This, of course, increases the exudation and enlarges the diseased area. After an interval of several weeks the morbid action may cease, spontaneous repair take place, and the crusts drop off, disclosing a healthy but somewhat reddened surface. Usually, however, unless appropriate treatment be instituted, the disease passes into the chronic stage, and remains for months or years, with occasional periods, of amelioration and exacerbation.

Infantile eczema is due practically to one of four causes: 1. Insufficient or improper food. 2. Imperfect assimilation. 3. Deficient excretion. 4. External irritation.

Insufficient or Improper Food.—This is one of the most frequent exciting causes of the disease. If the mother's milk is scanty in quantity or poor in quality, or altered in character by pregnancy, passion, menstruation, anxiety, or disease, the nutrition of the child will suffer, and eczematous or other eruptions speedily appear. If the child is hand-fed, and given

unsuitable and indigestible articles of food, or, if the cow's milk upon which it is nourished is so diluted with water as to be deprived of its value, the same result will follow.

Imperfect Assimilation.—This is another potent factor in the production of the disease. The food may be perfect in all respects, but if owing to disturbances of the digestive tract a considerable portion of it is either rejected by vomiting, or hurried out through the intestinal canal before digestion and assimilation are complete, the blood will become thin, the nervous system will suffer, and various cutaneous eruptions appear.

Deficient Excretion.—Deficient excretion is not as frequently chargeable with the development of infantile eczema as it is with many other cutaneous disorders, but many stubborn cases spontaneously disappear when the normal functions of the various excretory organs are reestablished.

External Irritation.—This is frequently the unsuspected cause of numerous cases of infantile eczema. Among the common sources of irritation may be mentioned woolen or flannel clothing, tight clothing, dyed clothing, wet diapers, scratching, and the too frequent washing of the body and scalp with soap and water. The eruption is often aggravated by the use of quack preparations, or ointments recommended by obliging friends and neighbors.

Treatment.—The general principles upon which the successful treatment of infantile eczema must be based are, to improve the nutrition of the patient, correct any disorder of digestion or excretion that may exist, and protect the affected surface from further irrita-

tion and endeavor to restore it to its normal condition. The measures to be employed in each case will vary with the cause of the disease, and the extent, variety, and stage of the eruption. In some cases attention to diet and hygiene will be sufficient to effect a cure. In other cases local or constitutional medication will be required, while in obstinate cases both local and constitutional remedies must be employed. In mild cases of erythematous or papular variety, in which the deficient character of the food supply is plainly apparent, immediate improvement can often be obtained by simply giving a sufficient quantity of appropriate nourishment. There are several ways of accomplishing this. If the mother is nursing the child, and her milk is scanty or impoverished, she should be placed upon tonics and a liberal diet, and directed to give the child a definite quantity of cow's milk in addition to her own at stated intervals throughout the day. I have notes of several cases in which a rapid and decided improvement in the character and amount of the mother's milk, and a disappearance of the eruption from her child followed a liberal diet, conjoined with the use of the following prescription:—

R. Tinct. ignatiæ. . . . gtt. xx.
Tinct. cinchonæ . . . oz. ij.
Tinct. serpentariæ . . . dr. ij.

M. Sig. — Teaspoonful in water before meals and at bedtime.

If, unfortunately, the infant cannot be nursed by its mother, the best substitute for its natural food is the pure unadulterated cow's milk, unmixed with any other substance whatever. More than thirty years ago, Dr. N. S. Davis declared before this

Association, that the practice of diluting the cow's milk given to infants was a direct cause of incalculable suffering and innumerable deaths. Careful observation has convinced me of the truth of Dr. Davis' assertion. Time and again have I been called in to see infants of from ten weeks to six months old, who were crying continually, pining away, and in addition were covered with various forms of eczematous eruptions. On inquiring what the little patients were fed upon, the answers were: one part milk and three parts water; one part milk, one part flour, and five or six parts water. In one case the unfortunate child was being slowly and unknowingly starved to death upon one part milk and eight parts water. My orders in every case were to at once give each child plenty of pure undiluted cow's milk and nothing else for food. For some I directed two grains of pepsin to be given in addition with each feeding. No other medication was employed or required, and in every case the eruption spontaneously disappeared in from a few days to two weeks.

In other cases it will be found that the trouble is due to the child being given potatoes, pies, pastry, pork, and all sorts of table-food, preparatory to being weaned, or to assist it to cut its teeth. The child's stomach is unable to digest such food, its gastro-intestinal canal is disordered, and various eruptions appear that are charged to dentition. Dentition is a perfectly natural process, and in the overwhelming majority of cases is accomplished without any reflex or direct disturbance of the system. The cases of eczema attributed to it are numerous, but they are really due to er-

rors of feeding and disorders of digestion.

Cases of infantile eczema, due to imperfect digestion and malassimilation, require to be studied carefully. Those in which there is a deficiency in the gastric juice, are benefited by the administration with each feeding of from one-half to two grains of pure pepsin, or from two to five grains of lactopeptine. Nux vomica in doses of from one-quarter to two minims of the tincture three times a day is also valuable. Minute doses of the chloride of iron, or of hydrochloric acid, sometimes yield better results than either pepsin or nux vomica. If diarrhoea exist, small doses of opium or Dover's powders, with an astringent tonic, like cinchona or geranium, will be of the utmost value. In some cases a change of air, as to the seashore or the mountains, will be the most effective remedy. Cod-liver oil will be found of especial value in all patients that are debilitated, anæmic, or that present any evidences of the scrofulous diathesis. It may be given in half-drachm doses three times a day, or used as an inunction every morning. In many cases, no other treatment will be necessary. The syrup of the iodide of iron is also valuable. The dose will vary from five to twenty drops, according to the age of the patient. It may be given in any convenient medium, or in combination with cod-liver oil.

Quinine is also an effective remedy, especially in malarious districts and in cases in which the eruption manifests itself during the spring and autumn months. It may be given in the syrup of yerba santa, in doses from a half grain to three grains once or twice

a day. Very often in cases arising from gastro-intestinal irritation or complicated by constipation, marked and rapid improvement can be obtained from the use of minute doses of calomel, alone or combined with a small quantity of jalap resin, as follows:—

R. Hydrarg. chlor. mitis gr. j.
Resinæ jalapæ . . . gr. j.
Sacchari albæ. . . gr. x.

M.—Ft. pulv. No. vi.

Sig.—One powder every other day.

Podophyllin and leptandrin will also be found serviceable. Castor-oil is a time-honored and an effective remedy. Small doses of syrup of rhubarb or carbonate of magnesium are frequently beneficial. In acute cases accompanied by fever and an increase of the circulation, aconite is potent for good. It will be noticed that I have said nothing as to the use of arsenic in the treatment of various forms of infantile eczema. The omission was intentional. Arsenic is sometimes requisite in the treatment of obstinate forms of eczema in adults, but in the eczema of childhood it is not only unnecessary, but frequently injurious. For many years I have not employed arsenic in case of infantile eczema, which have come under my observation. I would advise that arsenic be avoided in the treatment of infantile eczema, as its use is often productive of more injury than any benefit it may produce on the disease.

Local Treatment.—In cases in which the itching is a marked symptom, various soothing and anti-pruritic lotions and ointments may be employed. Those which I most frequently order are:—

R. Acidi carbolici. . . gr. ij.
Hydrarg. chlor. mitis gr. x.
Ung. zinci oxidi benz. oz. j.
M.—Ft. ungt.

R. Creosoti miiij.
Aquæ oz. iij.
M.

R. Chloral hydrat. . . grs. v.
Aquæ menth. pip. . oz. ij.
M.

Applications of cold water, ice-water, lead-water, and laudanum, or a saturated solution of bicarbonate of sodium, will also be found grateful and beneficial.

When the eruption has become sub-acute or chronic, and the integument is covered with crusts, it would be folly to expect any improvement until the diseased surface is exposed to view. The affected region should be covered with a starch poultice, or saturated with oil to loosen the crusts and scales, which must be carefully picked off. Various stimulation ointments may then be applied to the exposed, denuded surface, but care must be taken to avoid increasing the irritation and inflammation. The medicaments employed should be such as will constrict the capillaries and reduce the congestion, while they at the same time form a protective covering for the raw and oozing corium. The subnitrate and the oleate of bismuth and the oleate of zinc, either in powder or ointment form, are excellent applications for this purpose. The ordinary benzoated oxide of zinc ointment alone, with five grains of camphor to the ounce, is also serviceable. The following ointment will be found valuable:

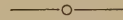
<i>R.</i>	Pulv. opii	gr. iij.
	Acidi tannici . . .	dr. ss.
	Plumbi carbonatis .	dr. j.
	Olei Athemidis . .	gtt. v.
	Adipis.	oz. j.

Another excellent procedure is to brush a twenty-five per cent. solution of the fluid extract of geranium over the surface after the scales have been removed. Diachylon ointment, weak tar ointment, cucumber ointment, weak salicylic ointment, and the ointment of the carbonate of lead, may also be employed with benefit. Harsh and irritating applications must be sedulously avoided, as they are certain to protract the disease. Cases due to external irritation usually require nothing more than the removal of the irritant and the application of a soothing ointment or lotion to the part affected. Dyed woolen or flannel clothing should be replaced by articles of wear composed of some less offending material. If wet diapers are at fault they should be removed as soon as soiled, the parts gently mopped dry with a soft cloth, and then dusted with zinc oxide, bismuth sub-nitrate, or lead carbonate, or painted with a dilute solution of geranium maculatum. If the eruption is due to the scratching and irritation consequent upon the presence of lice, the hair should be cut short, and any of the following ointments rubbed well into the scalp :—

<i>R.</i>	Hydrarg. chlor. mitis.	gr. x.
	Acids carbolici. . .	gr. ij.
	Ungt. zinci oxidi . .	oz. j.
	<i>M.</i>	
<i>R.</i>	Naphthol.	gr. x.
	Ungt. zinci oxidi. .	oz. j.
	<i>M.</i>	
<i>R.</i>	Sulphuris sublimati .	scr. ij.
	Pulv. marantæ. . .	dr. j.
	Ungt. aquæ rosæ . .	oz. j.
	<i>M.</i>	

Cases that are the result of the too free use of soap and water will usually spontaneously subside upon the suspension of the practice. An infant's body should be bathed every day in tepid or warm water, but soap should not be applied to its delicate skin more than two or three times a week.

—*The Medical Bulletin.*



SCIENCE IN COURT.

A German trade journal relates a curious instance in which a legal decision was arrived at by means of a scientific experiment in a court of law. One of the workmen employed by a large firm let his hammer slip from his fingers just as it was descending upon the object on which he was employed. It struck another workman in the region of the left eye and produced a serious wound. The sufferer was attended by a surgeon, and a short time after the accident all trace of its results had disappeared. The patient, however, persisted in declaring that he was enduring great pain, and that he had completely lost the sight of his left eye. The head of the firm, who was legally responsible for the consequences of the occurrence, employed several specialists, who met in consultation, and who could find nothing wrong with the eye. Compensation was, therefore, refused to the man, and the matter was taken into court by him. Here, again, the experts commissioned by the judge to examine the eye unanimously declared that it was perfectly sound and uninjured. The plaintiff persisting that he could see nothing with the left eye, one of the

experts had recourse to the following experiment. He took a black board and wrote some words upon it in green ink. Then he desired the patient to put on a pair of spectacles which had been specially prepared for this occasion. The glass for the left eye was plain white; that for the right eye was red. The man having adjusted them, the expert asked him to read what was written on the board, which he did without a moment's hesitation, thereby convicting himself of fraud, for the red glass in the right eye would turn the green ink into black, and render it quite invisible upon the black board. He had read the writing with his left eye only, the spectacles on that side having an ordinary white glass. The result of the experiment was the nonsuiting of the plaintiff, who was besides condemned to pay the costs of the action. The application of this novel form of science in his case must have been extremely surprising to the workman, who in his ignorance was doubtless firmly convinced that no one in the world could be in a position to contradict his assertion about his own left eye. His position was, to his own thinking, impregnable; and to be found out by a bit of jugglery with a pair of spectacles and a black board must have been all the more exasperating because it was absolutely unexpected. — *The Daily News*.

[Mr. Cross tells me that this well-known test of Snellen's is being frequently applied. The difficulty rests in getting the exact shade of green which will be invisible through a red glass. The case quoted is a good instance of the practical value of the test.]—*Bristol Med. Chir. Jour.*

A SCIENTIFIC ATTACK ON THE CORSET.

The crusade against lacing and the use of corsets has never been taken up very warmly by the medical profession. Perhaps this is because the doctors' wives and doctors' daughters are continually showing them that lacing, like tea-drinking, is a practice which will be followed despite all that science may disclose. Perhaps, too, it is because the attacks of reformers upon the corset have been of a too hysterical and sweeping character, and based upon general grounds rather than any carefully collected observations.

Dr. Kianovsky, of St. Petersburg, has, however, lately presented an array of facts physiological and pathological telling severely against the corset (*Wratch*, Nos. 20 and 21, 1888; *London Medical Recorder*, October 20, 1888).

The observations of his predecessors in this line of investigation are first given. Professor Flower's work on "Fashion in Deformity" is rather a scientific than a critical study of the question. Professor Lesshaft, in 1884, however, made some observations on school-girls and found spinal curvatures far more often in boys than in girls. This he attributes to the use of corsets by the latter, a conclusion which is, however, a *non sequitur*, considering how many other factors are at work. Professor Lesshaft, with more reason, thinks that the use of corsets weakens the osseous and muscular structures of the trunk, and causes protuberant bellies and lax abdominal walls. Perhaps if young women knew that corsets which constricted the waist would eventually give them an

obtrusive abdomen they would be more careful in their lacing. According to Dr. Kianovsky, "masses of women (in institutions for young girls, among certain Caucasian peoples, etc.), feel ashamed to have full or large mammæ, and strive as much as possible to acquire flat, 'youthful' breasts; hence, during the period of developments of breasts the women not only lace themselves tightly in stays and bodices, but, in addition, sleep on their breasts with some hard object (book, etc.) below." Professor Bouchut draws attention to the fact that pressure of stays on the intercostal spaces in tight-lacers suffering from intercostal neuralgia, may give rise to paroxysms resembling angina pectoris. Meyer states that tight-lacing decidedly manifests an influence on the eye, in consequence of congestion resulting from obstructed reflux of blood from the head along the jugular veins. Almost every handbook of pathological anatomy describes a peculiar, more or less deep, groove on the surface of the liver, which is very often found on the post-mortem examination of female bodies, and which is caused by tight-lacing.

According to Professor N. Kianovsky, of St. Petersburg (*Handbook of Special Pathological Anatomy*, p. 204), "the hepatic capsule adjacent to the grooves proves to be considerably thickened from chronic inflammation, while the hepatic tissue itself at such spots is dense, atrophied to a more or less considerable depth, and sometimes even void of any glandular elements." Professor V. A. Manassein has for many years drawn the attention of his students to an important role appertaining to stays (and tight petticoat

bands) in the etiology of gall-stones. His observations are supported by Dr. Rotter (*Duetsche med. Wochensch.*, February 14, 1884), according to whose researches on gall-stones, of 1,034 necropsies at Munich the stones were present in men in 3.9 per cent. of the whole number, and in women in 9.9 per cent.; in as many as forty per cent. of the female cases, simultaneously with gall-stones, there were found grooves and constrictions caused by stays. An important work recently published by Professor Marchand (*Duetsche med. Wochensch.*, March 22, 1888) throws a strong light on the mechanism of the formation of gall-stones in tight-lacers. Dr. W. J. Collins' experimental researches (*The Lancet*, March 17, 1888, p. 518) similarly elucidate pretty well why "deficient bile, dyspepsia, sickness, constipation, clayey stools, headaches, chlorosis, debility, may form a natural sequence" of tight-lacing.

Dr. Arini has reported a case showing that tight-lacing may cause wandering liver.

Drs. Graily Hewitt, Meyers, and Helene Belts assert that tight-lacing may cause displacements and flexions of the womb. Neftel's experiments showed that thoracic and abdominal compression cause anæmia. Schuter found that a lasting compression of the chest could cause albuminuria.

Kianovsky, experimenting on fourteen habitual tight-lacers, found the average decrease of vital capacity of the lungs, when corsets were worn, to be 357 cubic inches. The strength of inspiration and expiration was decreased also, and the respiratory excursion of the chest. Hence he concludes that the corset dooms the wearer

to oxygen starvation. He also found a lowering of blood-pressure and "arterial anæmia" as a result of the lacing.

The list of ills which the corset brings with it may here be repeated for the benefit of the fair and willing victims of the fashion :

Local inflammation of the liver.

Gall-stones and biliary colic.

Wandering liver.

Protuberant abdomen and enteroposis.

Prolapse and flexions of the womb.

Lateral curvatures of the spine.

Anæmia, chlorosis.

Dyspepsia.

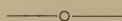
Diminished lung capacity and oxygen starvation.

Intercostal neuralgia.

Weak eyes.

Bright's disease.

This is a list that ought to convey dismay to the hearts of corset-makers and corset-wearers. But we suspect that women will continue to wear stays, and will answer to the complaints of science that the life of woman is, despite her dress, longer than that of man.—*The Medical Record*.



PURE AIR IN PNEUMONIA.

SIR.—It is with great pleasure that I have read the article entitled, "Pneumonia," and your editorial comments on the same, in the issue of October 20th. The subject is one to which attention has not been sufficiently called, yet I venture to say that a little more consideration for the ventilation of the sick-room (even, if necessary, taking the risk of the "eastern draughts of air that are arrows of death") will result in a reduction of

the average mortality from this disease that will be as gratifying as it would doubtless prove surprising to many a clinician. New York is not alone in the higher mortality from pneumonia; our Cincinnati Hospital* shows an annual death-rate of not less than thirty-five per cent., frequently more. The value of the "fresh-air treatment," for so we may justly term it, was particularly impressed upon me by a case observed in the wards of the London Hospital, under the care of that genial physician, Dr. H. J. Sutton, some eight years ago. The patient was a young woman, aged twenty-three, of the lowest social status, addicted to alcoholic excesses, a prostitute, who was admitted to the house during the latter part of January, with a lobar pneumonia of the right upper lobe. In the course of the next four days the whole of the right lung and the apex of the left lung became involved in the process. The general aspect of the case, the extent of the inflammatory process, and the familiarity of the disease in this and other northern cities, involuntarily led to the framing of an unfavorable prognosis. Yet, despite the fact that the pneumonia did not terminate in resolution, that a large pulmonary abscess formed in the right upper lobe, that patient was walking about in the open air in the early part of April, in better health than she had enjoyed a long time before. The one thing that has kept the case so clearly before me was the singular line of treatment pursued. On the second day of her stay in the house after careful examination by Dr. Sutton, he ordered the window alongside her bed to be opened for five minutes every hour (this in a

London atmosphere in January), to have the chest, arms, and face sponged every hour, and in addition free stimulation with sherry, whisky, and carbonate of ammonia, together with Dover's powder, if there should be much pain. This practice seemed almost heretical to me; to open the window directly alongside of the bed of a patient suffering from pneumonia, in the coldest air of winter, seemed like wantonly hastening the fatal issue; yet the result proved the wisdom of the physician's directions.

Twice since then have I resorted to this plan of treatment myself. Both cases occurred in children, and both were desperate cases. One occurred in the latter part of December, the other in March. In both of these the bed was moved just alongside of the window, the sash was raised at least six inches, and this procedure was followed until the physical signs indicated the occurrence of resolution. Both of these children are now alive, strong, and hearty; and, though the *post hoc* does not always prove the *propter hoc*, I feel very sure that the fresh air had more to answer for the recovery than any other feature of the treatment.

Let our brethren not dread the fresh air in pneumonia. If it is impossible for the fever-stricken patient to catch cold, what is there to fear? The contact of the cold air upon the surface will lead to deeper inspiration; the colder air will find its way more readily into the deeper alveoli by mere displacement, and, according to the well-known laws of density, the cooler the air the larger the actual amount of life-bringing oxygen it contains. I hope that fresh air will be considered

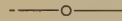
as the prime factor in the treatment, never, of course, to the total disregard of cardiac stimulants; and I am sure if this plan is more universally adopted, one of the most dreaded affections of our northern latitudes will lose many of its terrors.

Very respectfully yours,

JOSEPH EICHBERG, M.D.

Cincinnati, O.

Medical Record.



"WHOLE WHEAT," FURMENTY AND HOMINY.

Dr. Ephraim Cutter, of New York, contributed a paper not long ago to the *Albany Medical Annals* on "Cleaned Whole Wheat as a Diet," which recalls pleasant memories of our boyhood days, when and where boiled whole wheat, when it was new especially, was a common repast under the name of *furmenty*. Moreover, *great hominy* and *lye hominy*, two preparations of whole Indian corn, in the same land of "hog and hominy" as *furmenty*, were ordinary dishes all the year round, particularly in Virginia, and, like *furmenty*, more or less common through the wheat and Indian corn regions of the Southern States, though, so far as we are informed, never common or improved upon elsewhere.

The preparation and cooking of great hominy for the family of which the waiter was a member consisted in boiling whole Indian corn, first well washed, about a peck at a time, in six to eight gallons of water, with a handful of salt, put over cold, *all day*; that is to say, from breakfast time till nine—eight to ten hours—

until it was perfectly tender; frequently stirring the while, and adding boiling hot water occasionally to make up for the loss of evaporation.

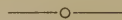
It was all the better for keeping a few days, and therefore rarely partaken of on the same day it was cooked. Such a batch usually lasted a week. It was commonly eaten for breakfast with milk or butter, cold or warmed, as preferred.

Lye hominy was prepared by first soaking the whole Indian corn in the lye of wood ashes during the preceding night, and then washing and rubbing it in cold water, with the effect of getting the bran off. It was then put over in cold water, salted in about the same proportions as great hominy, and cooked in the same manner, not requiring quite so much time, however, as great hominy, on account of the previous soaking. The lye gives it a peculiar though pleasant taste; the corn, being wholly divested of bran, is more delicate as well as more savory than great hominy. And it is among the most digestible as well as most nutritious of foods.

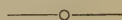
Fermenty was also prepared and cooked on an equally large scale, and in about the same proportions of wheat and water, salted to the taste, as hominy. But if desired in small quantity for a single meal, Dr. Cutter's description of the cooking of whole wheat answers equally well for either: "For four adults, take one cupful of wheat (or corn), wash it clean in cold water; put it in a tin pail or crockery bowl or other suitable utensil, and add one half a teaspoonful of salt and three cups of cold water. * * * Boil for eight or ten hours * * * in a double

water-jacket boiler, or in a 'Chamberlain' or other steam cooker."

But this, too, like hominy (and oatmeal, also, by the way), is all the better for being kept over for a few days, and should, therefore, be cooked in larger quantity at a time for even four persons.—*The Sanitarian*.



HUMAN AND ANIMAL BLOOD.—Dr. Cevera asserts that human may be distinguished from animal blood by the following method: If the blood be mixed with a little bile, small crystals are formed which are of different shapes in different species of animals. In man, it is claimed, they are right-angled prisms; in the horse cubes; in the pig right-angled prisms very similar to those seen in rhomboids; in sheep rhomboidal plates; in dogs the same as seen in human blood; and in chickens more or less regular cubes.



SWEATING OF THE FEET.—Dr. John Morgan writes: "By applying boric acid thoroughly to the feet, particularly about the nails, between and under the toes, and to the soles, two or three times a week, or oftener, as the case may be, dressing them while there is a good coating of powder on the skin, sweating of the feet may be effectually relieved. The application is easily made and will prove very satisfactory." Washing before and after might help!



There is no better department of education than to understand the laws of life and health.

Salt Lake Sanitarian

A MONTHLY JOURNAL OF MEDICINE AND SURGERY,

Devoted to the prevention and cure of diseases and injuries, and the promulgation of the laws of health and life.

M. B. SHIPP, M. D., EDITOR.

SALT LAKE CITY, APRIL, 1889.

EDITORIAL.

OUR FIRST YEAR'S WORK.

In the early part of last summer, when we issued the first number of the Salt Lake SANITARIAN, we dated it back to April, expecting that during the year ending the March following we would be enabled to complete the volume. But we find the time has about expired and only nine numbers have been issued. Our "incarceration in the pen" for several months seriously interfered with our labors, and to that fact chiefly must we attribute our failure to issue the twelve numbers in the specified time. As we are desirous of commencing the next volume with the April number, we have concluded to close the first volume with the ninth number; satisfaction will be made to subscribers who paid a full year's subscription.

As we examine the labors of the first year, with its results, we feel encouraged. The kind reception that was given to the SANITARIAN and the words of commendation we have received from its readers have given us much satisfaction. The success of our venture has gone beyond our expectations. These things inspire us with renewed determination to make the

SANITARIAN all that our subscribers would wish for—a health journal adapted to the wants of the home circle—to be a constant source of information upon all general matters pertaining to the health and vigor of the body. After a year's trial we feel no less impressed with the importance and value of a journal, such an one as we are trying to publish. We think it is an aid and means of instructing the laity or people upon questions of vital importance—questions that pertain to health and life. There can be nothing upon which so much depends of the usefulness and happiness of the individual as a correct understanding of such things. A failure in this direction shortens life, besides entailing an immeasurable amount of misery and suffering.

The value of the fact or principle of trying to prevent disease rather than hoping to cure, becomes more and more apparent. During the past year prophylactic or preventive medicine has advanced with astonishing rapidity. The success of this kind of medication or treatment greatly depends upon the knowledge possessed by the masses upon the subject of sanitation and hygiene. It is before you are stricken down by disease that you must do the work. To know how to live and regulate our surroundings, conforming to a hygienic regulation and subjecting these bodies of ours to a proper dietetic regimen insures the greatest returns for general health.

A WORD TO SUBSCRIBERS.

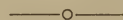
We desire to say to those subscribers who have not settled their subscriptions, that we only expect them to pay one dollar and a half for the nine

numbers issued. And to those who have paid in full, that we will remit the over amount paid, or if they feel to continue their patronage to apply the amount (fifty cents) on their next year's subscription.

PROFESSIONAL WRITINGS.

In this number we publish a very interesting article by Dr. Shoemaker on the subject of "The Cause and Treatment of Infantile Eczema," a disease commonly known as "scald or sore head" of children. We are aware that some of his language or terms may be better understood, perhaps, by the professional than by the general reader, especially some of the scientific names he uses, yet there is so much simplicity about it that, knowing what he is writing about, there will be but little difficulty in gathering his meaning. We speak of this matter because we have heard this criticism from parties whose opinions are valued by us very highly, that some of the pieces that have appeared in the *SANITARIAN* carried such a scientific diction that they were better suited to the professional than to the general reader. We see the point, and sensed the difficulty at the time we inserted them. But here is our dilemma. It must be remembered that our great object is to advance only such doctrines or ideas as have the sanction of professional and standard authority, and to do so we have felt that it would be better to let them speak for themselves, although medical terms would be used to convey their thoughts. It certainly is our endeavor to have our columns filled with such matter as can be understood by the general reader, at the same time we desire to publish such inform-

ation and facts as are promulgated by the leading journals in the medical profession that would be of profit and advantage in every day life. We would suggest that where the meaning of the writer is masked by scientific phraseology, or words that are not in common use, that a little "dictionary light" will bring astonishing relief, and we believe you will feel well repaid for the extra effort to understand you may have to make in reading some of the best productions found in our medical literature upon topics that are of common interest and can be utilized in domestic practice.



A TOAST.

BY DR. A. H. AGARD, Oakland, Cal.
(Delivered before the Alameda County Medical Association at its Annual Banquet,
January 8th, 1889.)

"Man, an animal which takes pills and potions for what ails him, and is never cured: What is the matter?"

This is not to be an impromptu picnic—no ecstasy of love at first sight, as you will see by my manuscript. Through the kind consideration of your master of ceremonies, I have had opportunity of sampling my toast, and have been allowed to put it to soak before, in my years of dental depravity, I attempt its mastication. Those of you who know me well have learned that I am not an extemporaneous character.

It troubled our wise progenitors, for long ages, to give a satisfactory definition of man. Some one, in a happy mood, I think he was making a funny after-dinner speech, perchance before a Medical Society, called him "the

laughing animal." Some one afterward discovered that some men never laughed and that some animals, evidently not men, had a way of laughing. Even the dog could express his hilarity by his face and a goat could bleat its joy. Another old thinker, probably a good walker, of erect figure, defined him as a "biped that walked erect." It was after awhile discovered that some men were poor walkers, and that all men were not quite upright, and that the ape could walk erect on two legs. As it was repulsive to the man at least, possibly also to the ape, to sustain such fraternal relations, this definition did not stick. Whether it was the want of uprightness in man, that disgusted the ape; or a want of manliness in the ape, that was revolting to man, history does not state. I believe there has been a later effort to patch up the muddle, by teaching that man is but a developed ape, and hence it is suggested that an ape is an undeveloped man; but this is unsatisfactory, and so it goes. All definitions have failed to meet the case.

I think, Mr. Chairman, that the definition set forth in the sentiment, to which I have been called to respond, is more nearly perfect than all that have gone before, and doubtless will obtain.

"Man, an animal that takes pills and potions for what ails him, and is never cured."

So intense has been man's desires to rid himself of his ills in this way, that it has been his custom for ages past, to set apart a certain number of the integers of society, whose business it was, and is, to dose him systematically and scientifically. Out of this

state of affairs has been involved the modern doctor of medicine.

At the Smithsonian in Washington the other day, I was much entertained and instructed in studying the system of classification in the elaborate museum. It is arranged to set forth to the eye the idea of evolution; or rather, perhaps, to illustrate what a handy and happy word we have found to convey an idea of what is going on about us.

At one point is seen the sedge raft and the rude canoe of the aboriginee. Along side something a little better, and something still better, until at last come models of the full-fledged sailor and the modern steamer. All of this teaches the evolution of the ship. It occurred to me that a museum, arranged to show the evolution of the doctor of today from the medicine man of other days would be very interesting and most instructive.

Some sententious thinker of the classical past said: the greatest study of mankind is man. Looking back for thousands of years, we can now add: the medical man has been the greatest anthropological student of every age. Faithful to the trust assigned him, he has ever made man the supreme object of his most untiring investigations. He has studied him anatomically, philosophically and chemically. He has investigated him pathologically, histologically, geologically, theologically and by all the *ologies* known to Webster, Dunglison and Thomas. He has carved him *cap-a-pie*, traced every fiber of his body, named it, determined its molecular structure and chemical character and given its functions; has made sections of every organ, in all

stages of growth and decay, and passed them under the microscope. He has given us, with great exactness, the character and constituent parts of all we eat, drink and take into the body, for all purposes whatever. He has investigated all the secretions and the excretions of the body, and watched all their changes under all conceivable conditions. He has ransacked all the kingdoms of nature for remedies for the ills of his patient, and from arsenic to catnip tea has determined their effects in health and in disease. All of this, and greatly more, has been done to the end that man in his ills may be systematically and rationally administered to. Thus armed, the doctor has fed him and he has fed himself pills, of all sizes, from infinitesimal to the bolus, sugar-coated and straight. He has drenched him with decoctions and potions from the most attenuated dilutions to triple F. concentrations. He has puked him, and purged him; settled his stomach and bound up his bowels; steamed him with heat and cooled him with ice; fed him high and starved him low, and still he is not well. He has placed a thermometer under his tongue and given him quinine and anti-pyrine to cool him off, and No. 6 and whisky to warm him up, and still he is not cured. He has precussed and marked out the area of hepatic dullness; poked him under the ribs; given him liver wort, phosphate of soda and calomel, and yet he does not feel quite right. He has listened to the heart beat, measured the pulse wave, given him digitalis, strophanthus and nitroglycerine, and yet he is not cured. He has thumped his chest walls, and with stethoscope heard the ongoings within

the thorax; has dosed him with cherry pectoral, bronchial troches, cod-liver oil, hypophosphites and creosote; has pumped him full of ill-smelling gases, and yet he does not feel well. He has finestrated his stomach by removing malignant growths from it, and sewed it up again, has stitched his lacerated intestines; has removed his kidneys, his spleen, the uterus and its appendages; has cut off the offending members and plucked out his eyes, and yet he fails to see that he is cured. He has bled him, has withheld the lancet and intoxicated him with aconite and veratrum viride instead, and yet he is not cured. What is the matter?

Looking over this situation, some wise men of our day sagely suggested that where cure was so difficult, prevention would be better, and they gave us a preventive medicine, a search after causation. They went nosing all about until they discovered more smells than there were in Cologne, or at the foot of Market Street in San Francisco. They told us the world was being poisoned by bad smells, gave us chlorinated lime and phenol to sweeten things, still man sickened and died, *ergo*: a bad smell was not a factor in the case. They drew a finer sight on the situation and at last, armed with Abuzie's lenses, they hunted everywhere for some cause of men's ills, until they "drew a bead" on what the poet had seen more than a century before, when he says:

"In thro' this air, this ocean and this earth,
All matter quick, and bursting into birth."

"What no eye can see,
No glass can reach; from infinity to Thee,
From Thee to nothing."

Man's whole environment was

found to be infested with thieves, robbers and assassins, and had been for ages, and it was strange any lived to tell his tale of woe. These deadly foes were invading the body in pantaloons and in squads, gaining entrance by inlet and by outlet, were encamped in every organ of the body, and if they did not kill outright they poisoned by their exuviae and ptomains. *Presto!* a war, offensive and defensive. Factories sprang up and germicides flowed through every avenue of commerce, and of all degrees of potency from peppermint water to solutions of corrosive sublimate. Strangest of all, man was to be educated up to an immunity by inoculations. All this was done and still he was ailing. *Ergo*—what?

Man has been studied most thoroughly. Many of the best minds of every age have been given to the investigation. The work that has been done is astounding, some of us have spent forty or fifty years in trying to get a glimpse of it. Our patient is better. Pestilence no longer devastates Christian countries; the period of life has been extended and suffering has been markedly alleviated; but still man is not cured and lives but about one-half his allotted years. What is the matter? This little joker in your sentiment, Mr. Chairman, the problem of man's mortality is to us a chronic perplexity. Who can solve it? With the persistence of a medicant, the old "what is the matter?" knocks at our doors with the returning light of each day, nor does it heed the darkness of night. Even while we unbend the bow to spend a convivial hour here tonight, the enemy is within our walls, and

the city is in flames. The morrow comes apace, when we go again to tussel with the same old question: "What is the matter?"

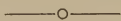
Some of us followed this quest long and diligently. As we trudge along down the western slope of the hill, foot-sore and weary, in the lengthening shadows stealing athwart the winding pathway of life, we long for rest in its cool retreats; sometimes hunger for that rest that is undisturbed by the cares and anxieties that weight us down here, and fain would turn the labors of the long day over to younger workers, with stronger arms and brighter minds.

But while the average man dies in mid-life, instead of rounding up his work at three-score-and-ten; while Rachel weeps, and will not be comforted, because one-half of the progeny of man slips from her arms to the grave; while the world groans in travail with its ills, and pleadingly cries out in its pain, "Oh! doctor!" who can rest? The incentive to still be up and doing—praiseworthy, noble, god-like—constrains. As oft as we hear the old slogan: "What is the matter?" piped through the air, we rise up and feel about for our armor; trim step to the music of the field, and would make believe that we join the clans in the struggle, with each returning day, until for us the to-morrows dawn no more.

It may be our study of man has been on too narrow lines. He has been studied as an animal. It may be he is something more, and that we have seen but one side of him. Hence it is, that I am most happy to see with us tonight, learned gentlemen who have studied him from other

standpoints. I see those of the legal profession, who have to do with his peccancies and his aberrations with his fellows. I see clerical gentlemen who have studied man's origin and his destiny. And I see the Press is also represented to-night; and, as its members may be supposed to have some views of man—they have *interviewed* him, I believe—we hope to hear from them.

Hoping that they may be able to tell us what is the matter, and to put us on the track of something that will be good for what ails our patient; and thanking you all for your attention and forbearance, I now gladly give place to those who can entertain you better than I can hope to do.



IS THE PRACTICE OF MEDICINE A FAILURE?

SIR:—If it be true that *The Medical Record* is a round higher on the ladder than any other American medical journal, the offence is due in part, no doubt, to the editor, whose effusions always furnish instruction, amusement, or food for thought, and sometimes all three. That the editor feels the importance of his position is indicated by the fact that from his elevated perch he sees far enough from his base to begin to be honest with himself, the world, “and the rest of mankind.”

Being something of a visionary and dreamer, the writer has been accustomed to direct his mind's eye into the unexplored mists of the future for a sign of the coming millennium, when all professional (medical) men could be honest with themselves and their patients, and still find bread to

eat. If he could in any way contribute to the hastening of that event he might indeed thank God that his servant had beheld his glory, and betake him to “the drapery of his couch,” and “lie down to pleasant dreams.” But to the question, When can such things be? “we offer no positive answer.”

In considering the question, “Is the Practice of Medicine a Failure,” *The Medical Record* very properly, I think, eliminates from the inquiry surgery and hygiene.

Surgery has become a great art, so great that even the abuses which beset it in special directions are no offset to its grand and beneficent results. True, the man who suggested aspiration of the heart was not confronted by a writ *de lunatico inquirendo*, nor has Alexander's operation ceased to be done; but the evils of rashness will correct themselves, and the men who now spay for fame will surrender the field to men who spay to save life.

But what if Nemesis should overtake the rash aspirant for fame! Woman is being “unsexed” in various ways. She is crowding man in every “liberal” calling — more in medicine, perhaps, than in any other. Suppose she should get on top before the advent of the medical millennium for which the writer has been praying. We may then find our cremasters tucked and fluted for pendant scrotum; the prepuce flounced for redundancy; the epididymis resected when the testicle is too low; our ureters catheterized, and the pelves of our kidneys curetted; and Miss Cynthia Tate, more bold and brilliant than all the rest, will castrate for all manner of neuroses. Then the sins of the fathers

shall be visited upon the children for generations, perhaps.

Hygiene, however, is the direction in which the finger-board of future glory seems to me to point. Few people, relatively, require the art of a surgeon. All are intensely interested in the causes which develop disease, and the means of removing the causes or preventing the development. Of course there are certain causes inherent in the race which science cannot remove. It can only point the way, and trust to the slow process of evolution to make man master of his appetites, everyone one of which, indulged to excess, becomes a source of disease. But man's environment is more easily controlled, and there is reasonable hope that the plagues and epidemics which have decimated communities in the past will be substantially, if not literally, banished. A wide-spread epidemics of yellow fever, with a percentage of death below the rate of most acute febrile diseases, is certainly remarkable, and, in spite of Sternberg and soda, it is too early to give the credit to therapeutics; for did not the negroes say that the colored people who sent for the doctor died, while those who threw "physic to the dogs" got well?

We will accept it as definitely settled, then, that the practice of medicine, so far as surgery and hygiene are concerned, is not a failure. This leaves two branches of the inquiry open to discussion: 1. Is the practice of medicine a failure from a purely business stand-point? 2. Is it a failure from a therapeutic stand-point?

The writer's observation extends over portions of a majority of the States of the Union, a minority of

the Territories, and the District of Columbia. I estimate, first, the number who enter the profession; second, the number who succeed; third, the number who do fairly well; fourth, the number who exist; and, fifth, the number who fall by the way. Comparing them by this scale with the numbers who enter commerce, the law, and the ministry, I am persuaded that the practice of medicine, from a business stand-point, is not a failure. The percentage of successes seems to me to be quite as large in medicine as in the other callings.

The classes who enter these pursuits in the country generally average much the same, and succeed or fail for much the same reasons in each.

And herein arises the point of real interest which attaches to the study of this question. The most cruel falsehood ever engrafted upon science by the phrase-makers is the modern dogma of "the survival of the fittest." The fittest never did, and I fear never will, survive by virtue of fitness. The *strongest* survive, not the fittest.

It is the "good" who die young, the pearls that are trampled under the feet of swine, and "modest merit" that is crushed to earth by arrogant assumption!

Men succeed or fail, in any calling, in consequence of a *personality* which bears no relation to knowledge or skill. No doctor ever succeeds solely by reason of knowledge and skill, nor fails solely for lack of knowledge and skill. Knowledge and skill are good, but of themselves they never bring business success. Some of the highest examples of knowledge and skill in profession that I have met were conspicuous failures from a business stand-

point; while some of the most brilliant ignorant examples were among the most brilliant business successes, being the most idolized by the laity, in consequence of certain personal and social characteristics. When the lay mind finds its man, it finds its doctor.

I am aware that it is not easy for the successful doctor to grasp this truth. "We are all poor critters," and the wisest are too prone to lay the flattering unction of success to superior knowledge and skill, instead of giving credit to things which belong to the man and not the doctor—things which were as much a part of the man before he looked at a medical book as after he graduated.

Those of us who have enjoyed opportunities for extended observation have seen this truth illustrated in other pursuits; have seen the most profoundly read lawyer in his county—modest, retiring, sensitive—starve in neglect and seclusion until, through pity, his more successful brethren would secure his appointment or election as justice of the peace, where, as Squire Blackstone, he would manage to exist in dignified poverty, while Jack Goodfellow, a mere tyro in law and too restless to study, would grow rich in the practice of the profession. The profoundest students are not men of action.

Whether the measure of the doctor's success is sufficient to compensate for his loss in longevity will depend, I suppose, upon how you look at it. Money is not his only reward. In all other respects he is apt to pass at a very full valuation, and if he is hard-up, as he often is, his creditors are

apt to be more considerate than with mankind in general.

Then considering, as I do, that the profession, though terribly crowded, is not more so than legal and mercantile ranks; and that its success on the whole is equal to the others, I must assume that, from a strictly business stand-point, the practice of medicine is not a failure—though, God knows, the pathway is sufficiently strewn with failures.

Is the practice of medicine a failure from a therapeutic stand-point?

Difficulties almost appalling stand in the way of a satisfactory answer to this question. Like the young man who inherited his father's estate, but who met such difficulties in the management of it that he "almost wished, sometimes, that father hadn't died," I almost wish, after having traveled so far, that I had not started to answer *The Record's* conundrum. But it has been my rule of action never to shrink from any task, no matter how difficult, if the patient's life was in danger and I could not shift the responsibility upon someone else, and I shall not shrink from this, as there is no substitute at hand.

Banish hygiene from the modern management of disease, and how far have we advanced from Hippocrates? Take measles, whooping-cough, scarlatina, any of the specific or continual fevers, and place them under the hygienic conditions that confronted Hippocrates, and can we cure any more than he cured?

Boerhaave was credited with the possession of all medical wisdom of his time, and the great volume through which he consented, after much importunity, to transmit it to the ages, was

found upon his death to contain only this:

"Keep the head cool, the feet warm, and the bowels open."

Can we do more than Boerhaave enjoined? Can we do as much? Perhaps. We can open the bowels, we can aid in restoring warmth to the feet or in keeping them warm. We may be of service in keeping the head cool. But we may fail in all these.

Under like hygienic conditions, what can we do more than our fathers did to save life? Do we in all things do as well? What of the treatment of pneumonia, to which you allude with a humiliating array of figures?

Just here the image of a grand old man rises before me. He began to practice medicine about 1832. Thirty years later he stood before me as professor of practice in my medical Alma Mater. He was always happy when he came to pneumonia. He would say:

"Now, gentlemen, we will consider the most manageable malady in the whole catalogue of inflammatory diseases. I can take hold of pneumonia with absolute knowledge of the power of the means at my command."

Then he would describe with exactness the stage of the disease at which he bled, copiously or otherwise according to the strength of the patient, and the effect of that remedy; the stage at which he used antimony, and the effect produced thereby. Then, as if conscious that the tide against phlebotomy was setting in so strongly that not one student within hearing would dare follow his advice, he would raise his arms and voice excitedly and declare:

"Gentlemen, I am no Sangrado! I do not run around with a lancet always between my thumb and finger!

I only tell you what my experience has demonstrated more than a thousand times."

I think the old gentleman's suspicions were well founded. I doubt if any member of his class ever practiced phlebotomy. I never did. But, stranger than that, I have never lost a case of pneumonia, though I have treated some most unpromising cases.

"Treated," did I say? No, I never treat pneumonia. I just try to manage it, giving a little bromide to keep up appearances, a little Dover's powder if the pain require it, and whisky in the form of eggnog and milk-punch later on. But as my experience with the disease is limited to a little less than twenty years in Dakota and Montana, where one lung is as good as two in the Eastern States, I claim no credit for treatment, and but little for management.

But would it not be well for some "bold, bad man" to study Marshall Hall, Dickson, Wood, and others—editions of forty years ago or so, and test their treatment of pneumonia as applied to modern conditions? There would at least be something novel in Marshall Hall's universal initiative in febrile diseases: "Bleed to faintness."

When I have seen an oily and untutored brother, armed with Humphrey's specifics, create more enthusiasm than the best equipped regulars from the best schools, such faith as I had in men and drugs has suffered a great shock. When I have seen the same brother, in order to evade prosecution for practicing without legal authority, leave the town to the mercy of disease for five whole weeks, and return with a certificate from one of the leading

colleges in the northwest, and immediately add to his *clientele* a larger percentage of merchants, bankers, ministers, and other intelligent classes than the most popular of the regulars, I have been on the very verge of doubt. True, some of the lonesome regulars said he furnished more than his share of business for the undertaker. But then he had a right to. He had more material to work upon.

When I have seen a graduate of a noted university give the one four-hundredth of a drop of tinct. belladonnæ, I have at least wondered; and when I have utterly failed to establish a difference in mortality under the different systems of medicine practiced under my own eyes, well—further remark is useless.

It has taken me twenty-five years to be convinced that so simple a thing as gonorrhœa cannot be cured, and I still cling to the belief that it gets well the quicker for a little judicious management.

But, my dear *Record*, we can do a great deal with drugs besides kill people. What of the intermittents and syphilis! We can open the bowels, and sometimes close them; and how much better nature often works after we have removed a part of her burden. We can relieve pain, often with more apparent good than harm. And when Nature's fight against the last enemy become hopeless, we can render her fall less shocking to the audience.

No, the practice of medicine from a therapeutic stand-point, though not a brilliant success, is not a failure.

S. S. TURNER, M. D.

A. A. Surgeon, U. S. Army.

Medical Record.

HOW TO TREAT CRAMPS IN THE LEG.

Many persons of both sexes are greatly troubled with cramps in one or both their legs. It comes on suddenly and is very severe. Most people jump out of bed (it nearly always comes on either just after going to bed or while undressing) and ask some one to rub the leg. I have known it to last for hours, until, in despair, they would send for the family physician; and even then it would be hours before the spasm would let up.

There is nothing easier than to make the spasm let go its hold, and it can be accomplished without sending for a doctor, who may be tired and in need of a good night's rest. When I have a patient who is subject to cramp, I always advise him to provide himself with a good strong cord. A long garter will do if nothing else is handy. When the cramp comes on, take the cord, wind it around the leg over the place that is cramped, and take an end in each hand and give it a sharp pull—one that will hurt a little. Instantly the cramp will let up, and the sufferer can go to bed assured that it will not come on again that night. For the permanent cure, give about six or eight cells of galvanic battery, with the negative pole applied over the spot that cramps and the positive pole over the thigh. Give it for ten minutes, and repeat every week for one month.

I have saved myself many a good night's rest, simply by posting my patients, subject to spasm of the leg, how to use the cord as above. Even in bad cases, at the first jerk of the cord all pain left.—R. W. St. Clair, M. D., *Medical Age.*

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II.—THE CARE OF THE SICK.

BY THE EDITOR.

In this number of the SANITARIAN we will continue the subject of the "Care of the Sick," which we started in our last issue, by discussing the manner of feeding in the diseases of the digestive track. If, as we tried to show in our first article on this subject, the alimentation or feeding were such a prominent factor in the care of the sick, when we come to speak of the diseases of the digestive tract, the subject becomes still more interesting and weighty, and demands greater attention. We offer the following reasons as some that might be mentioned for this conclusion:

It is upon the blood that we have to depend in the process of repair. It is the circulation that builds up the injured structures and removes the waste and diseased products that are accumulating in the tissues of the body in a condition of disease. As has been quoted by us on another occasion from an eminent teacher, "No satisfactory repair of diseased or wasted tissue can take place without a suitable supply of healthy blood and healthy blood is the product of proper food and normal digestion and assimilation." It is through the labors of the digestive tract that this blood is furnished for the circulation, and when the machinery engaged in this important manufacture gets out of repair we

can readily understand how momentous the question becomes.

"How should we feed the sick" to establish and maintain a healthy condition of the body? It seems apparent on the least reflection that we should favor these delicate organs when they are in a state of disease. This favor and help can be the better accomplished by presenting only such foods as are readily and easily digested, and by this means the blood supply can be kept up with the least effort and labor by the organs of digestion. It is an axiom of the profession that in all cases of injuries and diseases, rest is the chief factor to be employed to bring about recovery. If it be a case of fracture of a limb the surgeon puts it in splints and bandages so that it may have the most perfect rest, in order that the ends of the bones may have the best condition to promote reunion, or when the abdominal visera may be suffering great inflammation, the bowels are locked up with opium, (placed in splints,) that the greatest rest may be obtained and the conditions secured that will be the best for a return to health. Or if the trouble be an ulcer or inflammation on the lower limb, it is elevated and placed on easy cushions and kept still, that the part may be relieved from its pendant position and rest favor restoration. Important as this procedure is in such injuries, it is not more so than where the functions of the digestive organs

are afflicted. It is necessary that we give all the rest possible to these over-worked organs, especially when they are in a condition of disease and can only but imperfectly perform the duties demanded of them. It is imperative that we favor them by rest and those conditions that will best lead to their recovery.

Looking through my "college notes" that I took when listening to the eloquent teachings of Prof. Bartholow on these vital questions, I find many valuable hints and suggestions that we think will be profitable to our readers. I will give a few of them.

In the chronic affections and conditions of the digestive organs he speaks highly of the "skim milk diet." The removal of the fatty element—the cream of the milk—lifts a load from the burden of digestion. To emulsify and digest the fats that we take in our usual diet is one of the severe labors that attends the process of converting the food we eat into blood. If the trouble is situated in the stomach and is of an acute character, the presence of food in the stomach increases the irritation and aggravates the malady. Under such circumstances the diet should be very bland and the food taken in small quantities and with regularity. Milk and lime water, barley water, tamarind whey, carbonic acid water, effervescent lemonade, etc., are preferable. The following formulæ are useful:

"To a tablespoonful of pearl-barley, washed in cold water, add two or three lumps of sugar, the rind of one lemon and the juice of half a lemon. On these pour a quart of boiling water and let it stand for seven or eight hours. Strain it."

"Boil an ounce of tamarind pulp with a pint of milk and strain."

"Squeeze two large lemons and add a pint of spring or cistern water to the juice and three or four lumps of white sugar, when required for use pour half of it into a tumbler and add half a small teaspoonful of carbonate of soda; stir and drink while effervescing."

"In the chronic affections of the stomach when digestion is feeble, especially of the nitrogenous elements (deficiency of gastric juice), such aliments as boiled rice, tapioca, arrow-root, aerated bread, (unfermented bread) and the farinaceous vegetables are indicated."

This is the kind of diet for such complaints, for these foods are digested chiefly in the small intestines and do not tax the good office of the stomach. It is the starchy and fatty elements of the food taken that undergo fermentation, which produces acidity and heart-burn, and where these conditions exist such foods as contain such elements in quantity are to be avoided. It is better to substitute the acid fruits and vegetables (apples, peaches, tomatoes, etc.), a liberal use of tomatoes, if fresh and ripe, will be found grateful.

On the other hand, where the indigestion or trouble occurs in the intestines, as in summer diarrhœa and cholera infantum of childhood, it becomes necessary to supply those foods that are principally digested in the stomach. In this case we give the intestines, the affected organs, rest. By so doing we comply with the great law or principle of giving the suffering part rest. In this last condition we should avoid fatty or starchy foods—bread, potatoes, peas, beans, butter and fat meats, these foods increase

the trouble, because when they reach the afflicted organ in their course through the digestive track the digestion is not accomplished fully, under which condition they act as irritants. This result is shown very early in the summer diarrhœa of children, and if the stools be examined you will discover particles or parts of the food that have undergone but little change in their passage through the alimentary canal save a partial putrefaction. Food in this state acts as a poison to the mucus lining of the intestine and produces the sloughing and discharge of mucus so characteristic of this disease. Rather let the aliments or feeding consist of milk, eggs, animal broths, (freed from fat) broiled or raw beef steak, oysters, fish, and such foods, where the digestion of them takes place chiefly in the stomach. In cases of jaundice where there is trouble from gall-stones, similar diet should be enforced. The starches and fats are especially active in setting up those local disturbances which cause the jaundice and should be avoided. When the malady is of a chronic diarrhœa in character, there is often obtained remarkable benefits from a diet of grapes, peaches and such succulent vegetable as tomatoes, celery and raw cabbage. Prof. Bartholow says that he has known many obstinate cases of summer diarrhœa of infants to be improved by the addition of ripe peaches to the milk diet.

The good results of a regular diet is very clearly seen in the treatment of *habitual* constipation. This condition usually depends upon the torpid state and deficient secretion of the bowels. When we have this state of things to meet, the food should be

such as corn-bread, graham-bread, oatmeal, fruits and such vegetables as green corn, tomatoes, celery, watercress. People who are affected with a tendency to constipation should eat a few almonds and raisins in their dinner desert. Those troubled with hemorrhoids brought on by constipation should make a liberal use of grapes and let their diet consist largely of fruits and succulent vegetables. Far better to put yourself on such a diet than to depend upon the irritating process of taking purgative medicines—they only tend to aggravate the distress and offer no permanent relief. Unless there be some particular pathological condition existing where certain kinds of food are contra-indicated, the appetite if not perverted is a good indicator of what to eat. In many cases of sickness the satisfying of the cravings of the patient would be good practice and would prove a decided advantage. Sometimes when the patient is very low he loses his relish for food. Under such circumstances much depends upon how the food is prepared and presented. A repugnance to food is often set up in the mind of the patient by the awkward, careless or indelicate manner of presenting it to him. When the appetite is so feeble it is better not to discuss the matter with the sick, but offer such dishes delicately prepared and tempting, without warning, when you may be enabled to induce your patient to taste your preparations. A pleasing artfulness that cheers may prove a successful appetizer. Let there be too little rather than too much upon the tray. It is not quantity so much that you are interested in as to get your patient to eat at all.

THE BATH.

BY WINSLOW ANDERSON, M. D.

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Bathing for the treatment of disease as well as for health and for luxury, dates back to the earliest times in the existence of the human race. The most ancient historical accounts as well as primeval mythologies speak of the bath as of divine origin.

The Egyptians practiced bathing as a religious rite; and throughout antiquity purification of the body was supposed to induce moral purity as well. We find that Moses made the bath a religious ordinance, partly, no doubt, the better to cure the many cutaneous diseases so prevalent among his people. In Palestine and many of the larger eastern cities luxurious bathing facilities were indulged in by the wealthy people of that day.

Homer frequently speaks of bathing among the early Greeks. It was indispensable in the preparation for sacrifice, for the reception of oracles and for the holy marriages.

Rome, at the zenith of her power, possessed some of the finest edifices for bathing that the world has ever seen. The accommodations were perfect, scarcely equalled today, and the baths were taken warm or hot. After one of these luxurious baths, the Romans had their bodies anointed with perfumed oils; then some gentle exercise, such as games, etc., was indulged in, and lastly, the body was washed and dried and perfumed with costly essence.

The Arabians and Mohammedans adopted bathing early. Islam enjoined

on the faithful corporal purity and prescribed daily ablutions.

During the crusades the Europeans first felt the great necessity for frequent bathing and medicated baths, as leprosy and other skin diseases were brought home by the wanderers.

Bathing is recognized today as a very important agent in the preservation and restoration of health. Besides promoting the healthy and regular exudation and secretion of the sudoriferous and cutaneous glands, bathing assists materially in absorbing and removing pathological products in the skin, and in and around the joints.

The bath may be classified according to the medium in which the body is immersed or surrounded, its temperature, etc. Thus we have the cold bath with a temperature from 40° to 60° Fahr.; the tepid, 85° to 95° F.; the warm, from 95° to 100° F., and the hot bath from 100° to 106°, 110° F., and in the case of hot mud-baths the temperature may be as high as 140° Fahr. Then there are the sitz bath, hand and foot bath, half and whole bath; the river, plunge, slipper, shower, dropping and douche bath; mineral water bath, saline, sea, sulphur, sand, earth and mud or moor baths; vapor baths, hot and cold; steam baths, hot and cold; compressed air bath, medicated bath, etc., etc. This latter, the medicated bath, may be practiced successfully in a small room or in a box bath specially constructed for the purpose. Here iodine, sulphur or other fumes are allowed to surround the body, while the head is kept free. In medicated baths the water may be impregnated with sodium chloride, nitric acid, chloride of lime, corrosive sublimate, etc.

Vegetable medicated baths may be composed of wine or vinegar; solutions of essential oils; fixed oils; infusions of willow, oak or peruvian barks.

Animal medicated baths are composed of broths, milk, blood, bouillon, oils or fats.

The animal bath, now nearly obsolete, was highly extolled by the ancients. It consisted of wrapping the whole or part of the patient's body in the warm skin of a recently killed animal. In the case of lameness, the patient's limb would be inserted into the breast or abdomen of the animal while yet alive. Limbs were also incased in freshly drawn blood. Frequently small animals were killed and split open and applied directly to the skin of the diseased part.

It is desired, however, to speak of bathing in natural mineral waters only. The virtues of these waters have been long established, and are daily receiving more extended application. Since the modern development of this system of therapeutics, a new school so-called, or class of people, have styled themselves "hydropaths," "water curers," etc., and with the exaggeration incident to everything new the promoters have promised a panacea "for all ills that flesh is heir to," which, of course, is as absurd as it is illfounded. Now that these quackish pretensions are all but universally ignored or buried in oblivion, it is very generally admitted by scientific medical men and experimenters that *mineral* water is capable of a large range of effects, and that the skin—some *sixteen* to *twenty* square feet in extent,—is by no means impervious to the foreign particles and gases held in solution in these waters. No

other organ has so large an absorbing surface. The skin may be used supplementary to the lungs or to the kidneys—indeed, we can keep a person alive for a long period by bathing in milk or beef soup, etc. The cutaneous surface exhales carbonic anhydride and takes up oxygen, thereby assisting the lungs. The skin can also be made to assist the kidneys materially by an increased action in the excretion of effete materials from tissue metamorphosis. Medicaments may likewise be absorbed by the skin which can thereby be made an active agent in the maintenance of health and in the treatment of disease.

The natural mineral water bath.—

The external use of many of the mineral waters in California and elsewhere is found to be of great service in chronic rheumatism, rheumatic arthrititis, gouty and strumous joint affections, and chronic skin diseases.

The most beneficial bath in the world may do great harm if injudiciously used, and indiscriminate bathing in hot mineral waters may not only prove injurious, but may even be attended with fatal results. It is, therefore, urged that careful medical surveillance be observed, and that a systematic course of bathing be instituted as an *auxiliary* measure in the treatment of these chronic diseases.

The beneficial results of warm or hot mineral water bathing are perfectly logical.

The sensations experienced on entering a warm mineral bath are pleasing. A feeling of comfort and enjoyment immediately follows, imparting to the system generally a genial sensation productive of luxurious contentment. The warmth is

rapidly communicated to the entire system, and propagated to the nerve centers from which reaction supervenes.

The first noticeable phenomena are redness, swelling and expansion of the integument, produced by the dilation of the smaller blood vessels under the relaxant influence of heat. This relaxant action is not confined to the skin alone, as the bath continues, but is also felt in the structures which lie beneath it. The muscles and tendons and inflammatory products around the joints seem to soften and exhibit less tension. This softening and swelling of the cutaneous system is noticeable by the wearing apparel, shoes, finger rings, etc., becoming "too small" after a bath. Now, this enlargement of the integumentary surface is in part due and to the dilated arterioles capillaries from the relaxant effect of the warm water, and also in part due to the *absorption* of the mineral water and ingredients; which absorption is in direct ratio to the specific gravity of the medium used.

This question of the absorption of water and mineral constituents by the skin has been a mooted point for many years, and it was not until recently that the subject assumed anything like a satisfactory solution. The many careful experiments and observations by such men as Maden, Collard de Martigny, Berthold, Willemin and Edwards, as well as clinical experience in daily practice, conclusively prove the endosmotic and exosmotic power of the skin. The mineral salts and elements have been observed in the secretions and excretions after bathing. Even the gases and acids in the water have been demonstrated in the circu-

lation after a prolonged mineral bath, so that cutaneous absorption may be regarded as satisfactorily established.

The temperature of the bath determines the relative force and frequency of the heart's action.

Respiration is also augmented in frequency on first entering the bath.

With every increment of heat above the bodily temperature ($98\frac{1}{2}^{\circ}$ F.) that the bath is raised, so is the rapidity of the pulse and respiration, *pari passu*, increased. The warm bath also increases pulmonary cutaneous transpiration. If the temperature be high, rapid disintegration of tissue ensues; the waste products of the body or disease escaping through the skin and through the pulmonary mucous membrane.

In this connection it may be mentioned that a prolonged bath at a temperature of 100° to 105° F. has produced decided loss of weight in obese persons.

With the general dilation of the capillaries and the concomitant relaxation of the nervous, muscular and articular systems and with the osmotic absorption of some of the bathing fluid into the circulation there seems to be greater volume to the pulsations; arterials, apparently sluggish in the performance of their duties from the tumefaction or inflamed condition of the surrounding tissues, take on renewed activity. This likely is one of the explanations of the *modus operandi* by which a swollen joint or an arthritic effusion improves so considerably by the use of thermal mineral baths.

GENERAL RULES FOR BATHING.

It is well-nigh impossible to lay down hard and fast rules for bathing

of universal application. Invalids are surrounded by so many circumstances objective and subjective that their management requires considerable latitude. The time of day, temperature, duration and frequency of bathing, after treatment, etc., all demand attention, and as every individual case requires special surveillance, only an outline for bathing can here be laid down.

Time of the day: Usually about 10 to 11 a. m., or about two to three hours after breakfast, will be right for the morning bath, or two or three hours after luncheon for an afternoon bath. Never allow a patient to bathe immediately before or after a meal, as digestion would be seriously retarded.

Temperature: The warm bath, 95° F. to 100° F., will probably suit most cases. Individual idiosyncrasy, however, requires consideration. A temperature which would be soothing and tonic to one person might prove too exciting and too stimulative for another. It is well to enter the bath at 95° F. and then increase it to any desired temperature. Should copious diaphoresis be desired a temperature of 105° F. or 106° F. to 110° F. may be used. The thermometer should accompany each bath and competent medical aid should always be at hand when hot baths are taken. Hot baths should not be used by patients suffering with organic disease of either heart, lungs or arteries. The plethoric and obese require care, let them enter the bath at a low temperature and gradually have it increased.

Duration of bath: Here again the bather must be governed by the requirements and peculiarities of his individual case. As a rule, ten to thirty

minutes at a temperature of 95°—100° F. produce stimulating and tonic action and allow ample time for the absorption of the saline and mineral salts. In temperatures of 105°—110° F. a few minutes immersion, say three to ten, will suffice. In cases of chronic cutaneous affections, half to one or even two hours soaking in mineral water at about 99° F. has been found most beneficial. In the hot moor or mud baths, now so efficiently used in joint affections, the temperature may be from 120° to 140° F., and immersion may last for five, ten to thirty or more minutes, on account of the low diffusive powers of the heat in the mud.

Frequency of bathing: This depends on the disease and on the patient's strength. It has been found that two or three baths a week at first, and then gradually increasing them to one (and rarely two) every day, do remarkably well.

After-treatment: It is important to establish complete reaction after each bath. The bathing facilities should be such that the apartments are warm and comfortable. Should prolonged sweating be desired, comfortable lounges or cots with blankets are provided. Otherwise the patient is briskly rubbed and thoroughly dried with rough Turkish towels. Should reaction be feeble then the use of the flesh-rubber or flesh-brush or strop may be advantageously resorted to. The cold douche may also be used. Hot beef-tea or soup is a capital stimulant, with or without brandy in cases of necessity. Having been thoroughly dried, it is well to gently rub the affected joints or limbs for some minutes, then dress and resort to *very gentle* exercise

for half an hour to an hour. It has been observed that patients after bathing in mineral water are not so apt to take cold as when plain water is used; it is well, however, to use care if the weather be cold.

The foregoing remarks have been applied to general immersions. In rheumatic and anthrithic diseases one or both hands or the feet are frequently much affected. In these cases the happiest results have been obtained by the hand or the foot bath, and for this purpose the hot 110°—140° F. sulphurous mud seems particularly serviceable. This partial bath may continue for half an hour or more, after which gentle rubbing with stimulating lotions, etc., may be practiced. A vaginal douche of hot mineral water has been found especially useful in the treatment of uterine engorgement, leucorrhœa, etc. Use several gallons two or three times daily and let the recumbent position be observed, while using the injection. Heavy saline or sulphurous waters promise the best results.

The more professional reader is particularly cautioned against the indiscriminate use of the thermal mineral waters, either for internal or external use, for, although they may look inert and harmless, these waters are potent agencies for good or for evil according to their application.

The mineral waters are not held out as cure-alls. It is only desired to call attention to their use as auxiliaries in the treatment of these exceedingly chronic and troublesome diseases. It may be remarked that California possesses as valuable mineral springs as those found in any other part of the world. A careful study of the com-

position of our local waters reveals the fact that many are almost identical with the noted springs in Europe. When this fact becomes more generally known, our invalids will not seek foreign springs and resorts at a great expense and a tedious journey, when they can obtain the same aid in their own state, with the addition of a more genial climate.



SOME REMARKS ON THE TREATMENT OF ENTERIC FEVER.

BY W. A. VAUGHAN, M. D.

The morbid anatomy and the nature of typhoid fever are so well understood at the present day, that the practical physician can but wonder why there is such a difference in the manner of treating this disease. Almost every journal one picks up contains the views of some one advocating a special plan of treatment, and it does seem to me that too much attention is given to the medicines we employ, and too much is expected of them. The more I see of typhoid fever the more am I convinced that medicine plays only a secondary part in the ultimate outcome of the vast majority of cases, and I wish to utter my feeble protest against the indiscriminate use of drugs in this disease. An eminent physician, whose name I have forgotten, years ago said that the treatment of typhoid fever could be summed up in two words—*alimentation* and *stimulation*. I am afraid the truth and importance of this statement are sadly overlooked today in our desire to find a treatment which adapts itself to some particular theory. Typhoid fever is essentially a con-

tinued fever, and if the intestinal lesions were only on the outside of the body instead of the inside, we could medicate the ulcers to our heart's satisfaction, and perhaps cut short their mad career; but as this is not the case, we give full doses of theory by the stomach and the ulcers heal nicely, of course.

The *symptomatic treatment* of typhoid fever, although unsatisfactory in a theoretical point of view, has been most successful in the hands of physicians in this section of country, and considering the type of cases we have here and the results of this plan of treatment, it certainly compares favorably with any yet reported. The great majority of cases here are of more than average severity from the beginning, and very few can do without a stimulant after the second week. Hemorrhage of the bowels is of rather frequent occurrence; this complication arising in nearly ten (10) per cent. of the cases. Notwithstanding all this, we have a mortality of not quite four (4) per cent. A patient with typhoid fever should be placed in bed as early as possible, and if practicable should be put in a large, well-ventilated room. He should be kept clean and fed *regularly* night and day, and especially should he have nourishment in the early morning hours. Under no circumstances should he be allowed to sleep more than three hours without food. He should have a liberal supply of cold water and cracked ice, and this should be offered him frequently; for, although he may not ask for it, his condition demands it, especially when he is drifting into a typhoid condition.

I have but seldom seen any good

result from the administration of calomel in the beginning of the disease, and believe the indiscriminate use of this drug is attended with more harm than good.

Our object should be to support the patient and keep him alive until the disease runs its course; his digestive organs should be toned up as much as possible, and, with this in view, I am in the habit of giving the mineral acids at regular intervals, and also quinine in small doses. Quinine given in this way is certainly a good systemic tonic, and as cinchonism rarely results from so small a quantity, this can be no objection to its use. The mineral acids are very grateful to most patients and often allay irritability of the stomach.

If diarrhoea is a prominent symptom, five grains of Dover's powder (in the form of tablets), repeated once or twice, is generally sufficient to control it, but occasionally it is necessary to give bismuth. But few cases will resist the action of these two remedies, and in my own practice I have never resorted to anything more active.

Opium is of much service apart from its use as an astringent, and I frequently give it in cases that are constipated. It quiets the nervous system, reduces the temperature, and secures for the patient many hours of useful rest. I often pick up my old note book and read this sentence: "*Don't be afraid to give opium in typhoid fever.*" These are words from the lips of our esteemed teacher, Prof. DaCosta, and I never treat a case that I don't hear them ringing in my ears. The combination of iodine and carbolic acid which is so highly spoken of by many successful practitioners, and which has

come to be known as the specific treatment, is a mixture which has invariably disgusted my patients, and I became so tired of hearing, "Doctor, for God's sake, can't you give me something else?" that I have thrown it aside, and I now feel just as secure as I did when I fortified myself with such a loathsome remedy.

The use of antipyrine and antifebrin is, in my opinion, carried to excess in the treatment of typhoid fever, and my experience with these drugs convinces me that they are not as harmless as some writers would have us believe. They act very nicely and promptly in reducing the temperature, but they frequently do this at the expense of the circulation, and I have seen them cause depression which was alarming.

I feel that too much attention is being given to the reduction of elevated temperature in typhoid fever, and many physicians seem to think they have fulfilled their calling and accomplished a great work if they succeed in helping a patient to die with a normal temperature. Unless the temperature exceeds $103\frac{1}{2}^{\circ}$, I do not give antipyretic doses of any drug, but, rely on *small* doses of quinia, with systematic sponging—the latter process being very soothing to the patient. If the temperature exceeds this point, the skin hot and dry, the pulse strong, I give antipyrine or antifebrin and note the result carefully, never leaving the patient until the effects of the drug are known. I never give either of these drugs and then at my next visit ask the nurse what effect they had—for such management may be followed by disaster to the patient. These are two drugs that bear watch-

ing, and I invariably discontinue their use when they cause any depression. They are well adapted to a limited number of cases, but I have never found them do anything but harm in cases with moist skin and high internal heat. The worst cases of fever we see are those characterized by high internal heat with no evidence externally of such a condition, and in these cases either antifebrin or antipyrine will do harm, and are vastly inferior to quinine. Quinine is our sheetanchor in this condition of things, and it is the only antipyretic that is not contraindicated. When the temperature climbs up to 106° and $106\frac{1}{2}^{\circ}$, the patient violently delirious, the surface cool, and we give antipyrine, the temperature at once goes down, but the pulse is weaker, and in a few short hours the thermometer again says 106° , and it is evident that antipyrine won't fill the bill; it is then that we go back to our old true and tried friend—quinine. We give a dose of twenty grains, or perhaps more, and in a few hours the temperature begins to decline and we know that it is going down to stay until the following day. The circulation has not suffered, and we feel that time has been gained. Quinine is the most reliable and is by far the safest antipyretic when the temperature goes beyond 105° .

When hemorrhage occurs, I immediately give a hypodermic of morphia, and ergot, also, if necessary; apply ice to the abdomen, and keep the bowels locked up for ten days by the use of deodorized tincture of opium.

The hypodermic use of morphia and atropia is also very satisfactory in cases with restlessness and prolonged wake-

fulness, and is a cardiac stimulant, whereas chloral is a dangerous drug because of the weakness of the heart muscle. When the circulation begins to fail whisky should be given in quantities to suit the particular case; as a general thing, it is not necessary to give more than eight ounces in the twenty-four hours, though in exceptional cases a pint may be required. If the patient has diarrhoea, I frequently give blackberry wine, which is a most admirable astringent and stimulant.

The *alimentary treatment* is the most important of all, for it is in the intestinal canal that the principal lesions are found. Of course, milk forms the basis of the treatment, and it is just here where good nursing and systematic feeding play such an important role in the termination of the case. The patient should not be made to take more milk than he can digest, for it is not the quantity swallowed but the amount assimilated that works out salvation for him. Three pints in twenty-four hours are generally sufficient to keep him up, but, of course, more can be given if it is well borne. A little pepsin may be combined with the mineral acids in order to facilitate digestion, should the milk be rejected or pass by stool unchanged. Eggnog, milk punch, etc., are very useful when administered at regular intervals, and are highly enjoyed by some patients. Chicken broth, as ordinarily prepared, by allowing a chicken to walk through a pan of warm water, is worse than nothing, and almost as bad as theoretical medication.

College and Clinical Record.

THE POISON OF TYPHOID FEVER.

BY CYRUS EDSON, M. D.,
New York.

Nothing is more discreditable to the civilization of the nineteenth century than the existence of typhoid fever.

Wherever men are congregated together in houses and villages, typhoid fever is endemic.

From Greenland to India, from England to China it holds sway. Yet of all diseases it is the most easily preventable, scarcely excepting small-pox.

Careful scientists have isolated its germ and taught us its characteristics. Numerous observers have shown us under what conditions the germ is best propagated, under what circumstances it perishes, and what agents best effect its destruction, yet their teachings seem utterly lost upon mankind, for people go on year after year drinking polluted water and spreading the disease. During the past year I have visited twenty towns supplied by water from dug or driven wells. In every instance the supply was polluted, and in the case of twelve was responsible for an outbreak of typhoid. The other eight were wanting only an initial case to infect the water-supply and cause an epidemic.

After investigation of many cases I have come to the conclusion that typhoid fever is rarely due to any other cause than polluted water, milk, ice, or meat. The first named is, of course, the most common. I can readily imagine that other means of spreading the disease may occur, and in the course of this paper will instance other possible causes. I assume the

following propositions as having been established by Chantemesse, Vidal, Brouardel, and other investigators with whose works you are familiar.

1st. That typhoid is due to a germ, the bacillus typhosus.

2nd. This germ is contained in the sputa and stools of typhoid fever patients.

3rd. The bacillus typhosus is easily destroyed by disinfection of infected stools and sputa by means of efficient agents, such as heat, mercuric bichloride, and carbolic acid.

No method of illustration is as convincing and striking as that of citing actual examples of the methods by which the disease is propagated. I will, therefore, give you records of a few authentic cases. Each case illustrates a different method of infection.

For the following instance, which shows how a perfectly pure water-supply, through ignorance, may become accidentally infected, I am indebted to Dr. John H. Girdner, of this city, who, a short time ago, had occasion to visit a small town in North Carolina, and while there was asked by a resident practitioner to see some cases of typhoid in the family of a farmer residing in a little settlement near by. The local medical man could not account for the outbreak, and had attributed it to a wave of the disease sweeping over the country. Dr. Girdner's curiosity was excited and he determined, if possible, to ferret out the causes. Of course his first step was to look after the water-supply. This he found was from one source for the entire hamlet—a clear spring, situated at the base of a cliff, perhaps ten feet high, and at such a distance from any source of drainage

or privy contamination as to exclude both. Above the spring the cliff leveled off on a stubble field from which a crop of some cereal had been cut and the ground ploughed and harrowed. The direction of the harrow-furrows and the pitch of the surface was toward the spring; a couple of hundred feet to one side but on the lower level than spring or field, stood the farm-house. Dr. Girdner ascertained that the first case of the disease occurred in this house, and on asking the country physician how the dejecta was disinfected, was told that they were thrown away at a distance from the house, and disinfection was left to the sun and fresh air. As they entered the farm-house they met an old woman carrying a vessel under her apron. The country doctor was about to stop her, but was restrained by a gesture from Dr. Girdner. She walked to the stubble-field, proceeded until she reached a point just above the location of the spring, then she gave the contents of the vessel a toss, and walked calmly back to the house. Here was the cause of the epidemic. The rain washed the poison down the harrow-furrows into the spring. Another water supply was obtained, careful disinfection of the stools practiced, and no other cases occurred.

A nearly parallel case was that of the Plymouth, Pa., epidemic. Nearly thirteen hundred persons developed typhoid from infection by the typhoid poison from one individual who resided on the bank of a small mountain stream supplying the town with water.

Typhoid fever is most frequently propagated by contaminated well-

water. It is safe to say that scarcely a well exists in this country the water from which is safe to drink.

Wells are popular because they are convenient. Almost anywhere a well from ten to forty feet deep will furnish clear, nice-tasting water that will impress an uninitiated observer with its purity. The country well represents a type described in the Bible under the simile of a "whited sepulchre." It is sunk as conveniently near to the house as possible, often under the floor of the kitchen. It is the habit of the countryman to sink another hole, also as conveniently near as possible to the house—his privy. Now the well draws its supply from an inverted cone, the base of which is at the ground surface. The privy, on the other hand, contaminates a cone, the apex of which is near the surface and the base of which is on a level with the bottom of the well. This gives you an idea of how far-reaching privy contamination is as regards well-water.

So many examples of well-water causing typhoid present themselves that it is embarrassing to make a choice for the purpose of illustration. I will take one, however, that occurred in September last, at a New Jersey seaside-resort. A charitable institution, and a most worthy one it is, has a country house at this place. Six of its children came to this city, and shortly after their arrival developed typhoid. I investigated the water-supply of the country branch and found it to be from a well. A sample of the water analyzed by the Health Department chemist was shown to be contaminated by sewage. The location of the well and that of the privy

showed the latter to be the source of the contamination. The privy had been the receptacle for typhoid germs from the bowels of a patient sick with the fever about three weeks before the children were affected.

Ice from infected water has been shown, in an able manner, by Dr. T. J. Mitchell Prudden, to be a source of danger. The typhoid germ is not destroyed by extreme cold. The germs that caused the Plymouth epidemic, already referred to, were exposed to a temperature of 22° below the Fahrenheit zero on the banks of the stream subsequently infected by them after a thaw occurred.

I am indebted to Dr. Fordyce Barker for the following account, illustrating the propagation of the disease by ice, though this epidemic, I regret to say, has not as yet been carefully investigated; its facts, consequently, cannot be vouched for by Dr. Barker, nevertheless it is probably essentially true. I only learned of it yesterday, but will take an early opportunity to investigate the conditions and data. Twenty-two cases of typhoid fever developed at a popular watering-place in this State during one of last summer's months. It was found that only those who used ice from a lake near by were affected. This ice was cut from a point near the entrance of a sewer that drained the town, or a portion of it. The use of this ice was stopped, and the epidemic ceased.

Milk may be the carrier of typhoid germs, and may be infected in two ways.

First, through the water-supply, as the following instance, related to me, by Dr. William M. Smith, will show: A country town in this State developed

a large number of cases of typhoid fever (nearly two hundred), and investigation showed that only the customers of a certain milkman were affected.

His well was examined and found to be contaminated by the drain of a neighbor's house in which a case of typhoid had recently occurred. The milkman admitted washing his cans with the well-water, but it is probable that he was no better than the others in his business, and occasionally utilized his pump for cow purposes. The infection of milk may possibly be accounted for in another way. It is this: The cow may take into her digestive tract the germs of typhoid; she may or she may not develop the disease (that cows are affected with a disorder that resembles typhoid fever is well known); but even if the germ produces no evil effect on the cow, it is a reasonable theory, and I advance it, that cultures of typhoid bacilli may be developed in the intestines of the animal who drinks water infected by them, and that her dung will be thus infected. Now milk always contains an appreciable quantity of cow-dung. I have seen the Lazell separator, a centrifugal machine for skimming milk, remove from one thousand quarts of milk as much dung as one could hold in both hands. This dung is detached from the udder, to which it adheres, by the operation of milking. I intend trying a series of experiments with the object of demonstrating this theory, and hope to invoke the aid of Drs. Prudden and Biggs, the pathologists to the Health Department.

The point I desire to make in this paper is, that typhoid fever is essentially preventable, because its poison is always tangible and must be taken

into the stomach and intestines in order to produce the disease; that, like cholera, it can never effect through the medium of the atmosphere, but must enter the stomach of man in food or drink, or on some infected article placed in his mouth. The strongest arguments advanced against this view have been those made by Volz, Herman Schmidt, Budd, Murchinson and Hutchinson. The latter writer states as follows: "Typhoid fever may be propagated in consequence of contamination of the atmosphere by typhoid poison. This may be the result of allowing the undisinfected stools or linen soiled by them to remain some time exposed to the air, or may arise from pollution of the soil from the same cause, or from defective drainage." He quotes Herman Schmidt, who cites several outbreaks in German garrisons which he believed to be due to soil-pollution where the ground underneath was found saturated with all kinds of impurities.

In one case the water-supply was found impure and cut off, yet the epidemic persisted. He does not state, however, what the water-supply was, or describe that which was substituted in lieu of the one cut off, nor does he in any one of the cases alleged to have been caused by contaminated air describe the water-supply, the ice-supply (if the latter existed), or that of milk. He merely gives the fact that gross defects were found in drainage, or that extremely filthy conditions existed. We acknowledge that atmospheric contamination by the typhoid poison is impossible when we admit, as we do, into our general hospitals cases of the disease, and treat such cases in wards filled with patients sick

with other ailments. Here, if anywhere, the atmosphere would become infected were it possible to so infect it. Here, if anywhere, the disease would find suitable subjects to attack. On every side are persons debilitated and bedridden, who would easily develop the fever if the germ were once introduced into their systems. Do they? I have never known a case to be so caused, and I doubt if any of the experienced gentlemen here can instance such a case. Even if you can, it is such a rare occurrence that other causes must be assigned to it.

If atmospheric infection were possible, New York City would have been almost depopulated during the period before the Health Department was able to effect reform in methods of plumbing. Most houses in those days were charged with sewer emanations, which were poured into them through their defective and trapless pipes. The following table gives the number of deaths caused by the disease from 1866 to 1876, inclusive:

1866	514	1872	364
1867	348	1873	294
1868	329	1874	275
1869	378	1875	247
1870	422	1876	283
1871	239		

This does not show a very powerfully exciting or even predisposing cause. Assuming the average death-rate of typhoid to be twenty per cent., 239 deaths—the smallest number occurring in any one of the above years—would represent 1,195 cases, a sufficient number surely to infect the sewers.

The observers who defend the theory that the disease originates *de novo*, are negligent in respect to description of causes that must be excluded before

their theory can be accepted as proven. In his *brochure* on the subject, Dr. Hutchinson, recognizing this fact, expressly states that the theory that the disease originates spontaneously cannot be accepted, because cases on which the theory is based can be accounted for by the proven fact that the germ may be latent for long periods, under certain conditions, awaiting favorable conditions to be fanned into activity.

Hutchinson cites the following instance, recorded by Von Giech in proof of this:

“To a village free from typhoid an inhabitant returned suffering from the disease, which he had acquired at a distant place. His evacuations were buried in a dunghill. Some weeks later five persons who were employed in removing dung from this heap were attacked by typhoid fever; their alvine dejections were again buried deeply in the same heap, and nine months later one of two men who were employed in the complete removal of the dung was attacked and died.” This instance might be taken as showing that the disease can be transmitted through the medium of the atmosphere, but when it is remembered how easy it is by means of infected hands to infect food, and that this was the probable manner of infection, we must doubt this to be a case of atmospheric infection. I believe that typhoid fever, like cholera, is frequently caused by infected hands. A walking case of typhoid fever is likely to leave its traces wherever it goes.

In the act of using paper after defecation the fingers are soiled. The most careful use of paper or

cloth scarcely prevents such soiling. The sputa containing the germs, as has been shown by Ludwig Letzench, may also infect the fingers.

Door-knobs, banisters, etc., may receive a sufficient quantity of the poison to infect the hands of those who subsequently touch them, and the germs may thus be transferred to food or drink. Of course, in case of this method of infection, it would be nearly if not quite impossible to trace the mode of infection, though if we reject the theory of atmospheric infection we can account for such cases as the last described in no other way than that of digital infection. The scrupulous care exercised by the surgeon, who cleans and disinfects his hands and finger-nails before an operation, shows his appreciation of digital infection by disease germs.

It has been claimed by competent observers that meat of animals sick with typhoid fever at the time of slaughtering will produce the disease in persons eating it. The epidemic that occurred at Kloten, near Zurich, has been widely quoted in defence of this theory. In 1878 a festival was held at this place, and of the 690 persons who partook of the meat served at the banquet 290 were taken sick with typhoid fever. Three hundred and seventy-eighty people who did not attend the feast, but who ate the meat elsewhere were also affected. Besides these, 49 persons who had not eaten the meat were taken ill subsequently, and their illness could be accounted for by infection from the first cases; in other words, they were secondary cases. All sources of infection other than that of meat could be, and were,

carefully excluded. The place was free from typhoid, and it was clearly shown that the water did not cause the disease. All persons who ate no meat escaped, as did those who drank sufficient wine to cause them to vomit. All symptoms of typhoid were present, and post-mortem examinations of those who died showed all the lesions of typhoid fever. It was found that forty-two pounds of veal was furnished by a butcher who had taken it from a calf that was moribund from disease at the time of killing. All the meat of this animal was sent to the festival at Kloten, but the liver was sold to a man at the town of Seaboch, and the brain was sent to the family of a clergyman in the same town. The former got typhoid fever, and the entire family of the latter were attacked by the disease. It was also ascertained that another calf, in the hands of the butcher, was diseased, and the veal from this calf was in a decomposed state. All this meat was kept for some time in a refrigerator in the inn at Kloten, where the festival was held, and this refrigerator was found to be in a horribly filthy condition. Some curious facts were noted in this epidemic: The victims had more abdominal pain than is usual in typhoid fever, and the period of incubation was very short, some of the cases developing on the second day, and the majority between the fifth and ninth day. Dr. Hutchinson, to whose article I am indebted for the account I have just given, states that the short period of incubation is characteristic of all cases of typhoid fever caused by infected meat.

During this fall, with the assistance of Dr. Charles S. Benedict, I have

investigated 146 cases in this city, between Twenty-third and Forty-second Streets, taken in succession from the records. Of these 72 were out of town during the thirty days preceding the attack, and 34 of the 72 had been in places known to be infected by typhoid. Seventy-five had not been out of New York, so far as could be learned. Of these 75, 17 were traced to recognized causes; 12 were due to the following method of infection, which was discovered by investigation; of these 6 cases of typhoid fever were reputed as occurring in a tenement-house in West Thirty-second Street.

The first case in the house occurred on August 15, and was in the person of an employee of the Department of Public Works, whose duty it was to clean and repair the public sewers. The other cases appeared in from twenty to sixty days after the first. The plumbing of the house was carefully examined, and no defects were found. I visited the premises with Dr. Benedict, and found that the school sink privy in the yard was flushed by means of a branch from the Croton supply-pipe, introduced in such a manner that its mouth was just under the surface of the contents of the sink when the latter was full. On account of the insufficient water-supply a force pump was provided in the hall of each floor of the house above the first story. No fixtures were placed in the living rooms, the occupants of the different floors being compelled to obtain the water they used from the pumps in the halls. The supply to the school sink was provided with the usual valve to cut off the water, but this valve was always turned on so

as to allow a stream of water to constantly flush the sink. When two pumps were being operated at once the suction induced was sufficient not alone to draw from the Croton main, but also to suck a portion of the privy contents into the water-pipes, thus contaminating the water. The amount drawn in was not enough to attract the attention of the tenants by the taste imparted to the water. The other 6 cases attributable to this cause were in a house in West Thirty-seventh Street, and the conditions found were the same as those I have just described. The first case, however, in this latter instance, contracted the disease in the country. No less than eight other houses, the water-supply of which was thus contaminated, have been found by inspectors of the Health Department, but only in these two instances, so far as known, has typhoid fever been caused by such conditions.

Four cases of typhoid fever, occurring in boys, during September, who had not been out of New York, investigated by Dr. A. H. Doty of the Health Department, were traced to the following cause: All were in the habit of bathing daily in the East River, near the mouth of a sewer on the line of which several cases of typhoid fever existed. In these cases no other cause could be assigned for the sickness except the one given, which I think is doubtless correct. The 57 remaining cases not accounted for were probably due to infected ice, milk, meat, or to digital infection. You will be interested to learn the relative prevalence of the disease in this city during the fall of 1887 and that of 1888. It is as follows: Sep-

tember, October and November, 1887, 435 cases, 105 deaths; September, October and November, 1888, 557 cases, 132 deaths.

The points I have sought to establish may be summed up as follows:

First. Typhoid fever never infects the atmosphere.

Second. Typhoid fever never arises *de novo*.

Third. The causes of the disease, in order of their frequency, are as follows: 1st, infected water; 2d, infected milk; 3rd, infected ice; 4th, digital infection; 5th, infected meat.

In this and in other civilized countries laws are enacted for the purpose of protecting the community from the accidental and criminal use of poisons. Yet, while wise law-makers have recognized the necessity for restricting the distribution of those deadly but useful substances produced by man from the universal and mineral and vegetable kingdoms, they have not recognized the thousand-fold greater necessity for restricting the distribution, by means of polluted well water, of the more deadly and useless poison which causes typhoid fever.

As I have already said, typhoid fever is pre-eminently a preventable disease. Its poison has been isolated; its characteristics are known. We know how and by what circumstances it is multiplied and propagated. It is well within the bounds of possibility for a person acquainted with these facts to use it for criminal purposes, and to almost defy detection; and yet against this insidious and deadly poison in the hands of the ignorant or careless we have no safeguards. On every side we are exposed to the

danger of being infected by such people with the poisonous agent that has for its effects the train of symptoms called typhoid fever.

If in every case of typhoid fever the stools and bedding were effectually disinfected, and the person of the patient after convalescence was also disinfected, typhoid fever would soon cease to exist. Even if these measures are not observed, nevertheless the danger of taking the disease can be reduced to a minimum by such precautions as can readily be taken by any one who knows the characteristics of the poison and utilizes his knowledge to avoid its dangers, such as never drinking well or ice water, avoiding milk that has not been boiled, and by washing the hands before eating.

The death from typhoid fever of those whose negligence or disregard of the known laws of nature indicates stupidity or indifference is a striking illustration of the operation of the law of the survival of the fittest. It should be remembered, however, that this law applies in the economy of nature to the lower animals and not to man, since the distinctive difference between man and the lower animals is found in his ability to adjust his surroundings in conformity to his actual needs and requirements; whereas the animal is unable to do so. We may therefore assume that the human being who ignorantly subjects himself to conditions which menace his life is reduced to a plane with the lower animals since he neglects to provide such surroundings as are conducive to health and longevity. Let the principles of hygiene be carefully taught throughout the country; let ignor-

ance be removed in this manner, and typhoid fever will stop its work.

It has been alleged in the public press that the Health Department of this city is doing nothing to prevent the ravages of typhoid. This is not true. Every case of the disease reported is visited, and in tenement houses instruction is given by competent men concerning disinfection. Disinfectant agents are also furnished. All possible local causes are looked for, and if any are found to exist they are removed. The result is that secondary cases seldom occur.

During the months of September, October and November ten physicians employed in this work made 2,592 visits to houses containing contagious diseases. This cost the city about forty cents for each inspection. The time taken for many of these visits was not less than an hour, and some took a longer period.

But, gentlemen, I have said all I have to say at present on the subject, and I will close my remarks by reading a poem written years ago by a distinguished gentleman who is present here tonight, and who little dreams that what he perhaps calls a folly of his youth is to be brought back to him now.

THE OLD OAKEN BUCKET.

(As Revised and Edited by a "Sanitarian.")

With what anguish of mind I remember my childhood,

Recalled in the light of a knowledge since gained;

The malarious farm, the wet, fungus-grown wild-wood;

The chills then contracted that since have remained;

The scum-covered duck pond, the pig-sty close by it,

The ditch where the sour-smelling house drainage fell;

The damp, shaded dwelling, the foul barn-yard nigh it—

But worse than all else was that terrible well ;
And the old oaken bucket, the mould-crusted bucket,

The moss-covered bucket that hung in the well.

Just think of it! *Moss* on the vessel that lifted

The water I drank in the days called to mind,
Ere I knew what professors and scientists gifted

In the water of wells by analysis find,
The rotting wood fibre, the oxide of iron,

The algæ, the frog of unusual size,

The water, impure as the verses of Byron,

Are things I remember with tears in my eyes.
And to tell the sad truth—though I shudder to think it—

I considered that water uncommonly clear,
And often at noon, when I went there to drink it,

I enjoyed it as much as I now enjoy beer.

How ardent I seized it with hands that were grimy,

And quick to the mud-covered bottom it fell ;
Then reeking with nitrates and nitrites, and slimy

With matter organic, it rose from the well.

Oh! had I but realized in time to avoid them,
The dangers that lurked in that pestilent draught,

I'd have tested for organic germs and destroyed them

With potassic permanganate ere I had quaffed;
Or, perchance, I'd have boiled it, and afterward strained it

Through filters of charcoal and gravel combined ;

Or, after distilling, condensed and regained it,
In potable form, with its filth left behind.

How little I knew of the dread typhoid fever

Which lurked in the water I ventured to drink ;

But since I've become a devoted believer

In the teachings of science I shudder to think.
And now, far removed from the scenes I'm describing,

The story for warning to others I tell,

As memory reverts to my youthful imbibing

And I gag at the thought of that horrible well,

And the old oaken bucket, the fungus-grown bucket—

In fact, the slop bucket—that hung in the well.

J. C. BAYLES.

Salt Lake Sanitarian

A MONTHLY JOURNAL OF MEDICINE AND SURGERY,

Devoted to the prevention and cure of diseases and injuries, and the promulgation of the laws of health and life.

M. B. SHIPP, M. D., EDITOR.

SALT LAKE CITY, MAY, 1889.

EDITORIAL.

SANITATION.

So busy are we with the bustle and cares of life, the struggle to provide, beside the multitude of duties and interests demanding our attention, that we think we can afford but little time to devote to the consideration of such a subject as sanitation, or how we should preserve our health while we can. When we lose it, and the energies, vigor and powers of active life are gone, then it is we can pour out vain regrets and bewail the course we have taken in not giving to this subject the importance and attention it is entitled to.

These thoughts were impressed upon our mind from observations we made during a recent trip we took through some of the flourishing settlements of our territory. There were many things we saw that had much to do in sapping the foundation of the health of the people; so many glaring instances of a failure to observe the laws of hygiene and sanitation upon which our hopes depend to secure unto ourselves the inestimable blessing of good health. Doubtless in some cases there was a lack of understanding, in other instances there appeared to be an air of

indifference or culpable carelessness and neglect in regard to the accumulations of decaying organic matter upon the premises surrounding their habitations. These masses of organic matter in a state of decomposition are hot-beds for the propagation of the germs of disease. It needs only the "seed corn" to come in contact with these favorable conditions to produce a heavy crop of ailments. Although sometimes we saw these things right under their very noses, yet they would express their wonder why they should be so afflicted, why diphtheria, typhoid fever and other malignant diseases should be so prevalent in their midst. we tried to account to ourself why there should be such a pronounced apathy upon the subject of sanitation, why there should be so great an indifference or failure to comprehend the necessity of removing the causes, to strive for a better knowledge of the requirements of hygiene, for it is only the mastery of these subjects that will give any prospect of relief. At some of the places we saw piles of apples and onions, there might have been fifty bushels or more in a mass, rotting, or a cellar full of potatoes sprouting and decaying, yet the occupants of the house just contiguous to this mass of rottenness did not appear to think that these things should be avoided, did not dream that the health of the family was being jeopardized.

Things here in the tops of the mountains are not now as they were thirty or forty years ago. What did the early settlers find when they first came to the valleys? A hot, dry atmosphere enveloping these arid vales. No moisture spread over the land. No heaps of decaying organic matter lay

scattered about. The water was confined to the deep cut channels of the mountain streams, the beds of which were floored with rocks and gravel. The surface of the earth was covered with a dry, lifeless looking growth, the "everlasting sagebrush," giving off an odor if bruised strong enough to have killed a "microbe" had it lodged in its branches. So dry and free from putrifying elements was the atmosphere that if you hung up a piece of fresh killed meat to dry it would cure in first class style. The virgin purity of the soil for ages had been uncontaminated by the habitation of civilized man. The "seed corn" of contagious diseases was not to be found in all the land.

In such vast contrast to this, what is the picture we behold today? What are the sounds that greet our ears? Everywhere, from hill top to hill top, across river and plain, echoing from mountain side to mountain side, the ceaseless buzz that hums from a busy civilization. The water is not confined to its narrow limits as of yore, but the artificial canals and little irrigating ditches are running all over the country, crossing and bisecting each other like the circulation of an immense arterial system. The ground is staggering under its burden of luscious vegetable growth. The universal foliage of fruit and forest greets the eye on every hand. Truly the desert blossoms as the rose. Nor are these the only sources of organic matter that must decay in its time and season. While in our primitive days there were but few of us, and still fewer domestic animals, such as the cow and our teams, some wild animals, as the occasional coyote or straggling

"grizzly" roaming through the mountains; today we have our large cities, towns and settlements teeming with throngs of inhabitants, tens of thousands of horses are in our midst and our thousand hills are covered with our sheep and cattle as with a mantle.

The horn of the herder is heard on the hill; the grunt of the porker is heard in the sty. (This sty is only a few feet from the bed-room window, that is, if the bed-room is fortunate enough to have a window or other means of ventilation.)

From such sources come an immeasurable quantity of decomposing organic animal matter. Hundreds of carcasses of animals throughout the country lie festering on the sides and banks of the mountain streams, pouring their putrescent discharges into the sources from which we draw our water supply. The refuse from slaughter houses and similar establishments are upon the right hand and upon the left, furnishing their full quota of decomposing organic animal matter. It is through these causes that are produced the condition of things that enables the elements of disease to flourish which are now afflicting us. In an early day the people in these mountains enjoyed almost an immunity from contagious diseases. The long journey of months' duration during the hot summer across the dreary plains and over the snow-capped mountains to reach the "valleys" enabled them to leave behind the bacteria and the microbe, necessary things to produce the prevailing diseases that are now in our midst.

'Twas under such circumstances that the early settler could pile around him the offal and waste of living—the

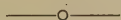
excreta from the pig-sty and out-house, the contents of the swill barrel could ferment alongside the larder—all these things could be had with little risk, for the “germs” were not present to improve the opportunity by occupying such rich fields for proliferation and do their work of spreading contagion. The influences and impressions made upon the mind by escaping disease while in such surroundings have been handed down, and some people still feel secure situated in similar associations. But we find a very different state of affairs today. The situation is altogether different. Nearly every foot-of space is impregnated with the powers of disease. The “seed corn” of infection has been sown broadcast and is only waiting for the proper media and favorable circumstances to proliferate or multiply.

Decaying organic matter, vegetable or animal, is just the very thing to favor the spread of these disease germs. What laid the foundation or gave the start to these elements of contagion? Has’nt this had something to do with it? Railroads have spanned the continent. Rapid transit has conveyed thousands of travelers through our country. The sick and dying have been left with us. All manner of diseases have been represented. We did not barricade against the spread of poison in the first cases. We did not destroy the germs of contagion as they escaped from the patients. We failed to disinfect and kill the microbes as they made their escape from the sick person. These producers of disease found in our very door-yards hot-beds ready prepared, where they could accomplish their rapid reproduction, and as a result,

we have all over the country the rapid spread of malignant contagious diseases such as scarlet and typhoid fevers, diphtheria and the contagious diseases of childhood. It is surprising to find so often an indifference or slackness displayed by the people upon such questions of vital import as these that we have been discussing. No doubt there are many times when there is lack of knowledge on the subject. And the festering sources of disease are not abated because the danger is not appreciated. But there may be found instances where there exists criminal negligence to prevent the spreading of malignant disease where there is no effort to move the causes and destroy the sources of these plagues that are spreading so rapidly from settlement to settlement. If people would only destroy the “germs” as they escape or pass from the patients by thorough disinfection and remove from their premises all decaying organic matter that furnishes such opportunities for the multiplying of such elements as escape disinfection, a rapid decrease of disease would soon become apparent in our midst. If on the other hand an extensive interest is not awakened in these matters of disinfection and removal of “microbic propagating dens” of filth about our homes and cities, these contagious diseases will become epidemic and sweep through our cities and habitations with more direful results than the devastating cyclones.

We can’t rest as securely with the hog pen, swill barrel, out-house, and such things at our elbow as did the the early settlers forty years ago. We must look to sanitation if we hope to escape. We tell you drugs will not

avail us in the hour of need. Times have changed—things are not as they were. Danger threatens! The forces of the destroyer are marshaled and offering battle upon our very threshold, if we repel the attack we must make vigilant effort. If we hope to drive them beyond our borders we must make persistent warfare upon their strongholds. Sanitation must be the war cry.



OBSTETRIC AND NURSE SCHOOL.

The winter class of Drs. E. R. and Maggie C. Shipp, closed on March 30th. Seven of the students receiving certificates after passing very rigid and satisfactory examinations.

The names of the ladies are:

Miss Emma Hillstead, Salt Lake City.

Miss Mary Sawyer, American Fork, Utah County.

Mrs. Parthenia A. Holt, Hoytsville, Summit County.

Mrs. Christine Petersen, Scipio, Millard County.

Mrs. Mary Sorensen, Teton, Bing-ham County, Idaho.

Mrs. Louisa Gibbs, Paradise, Cache County.

Mrs. Libbie Bybee, Hooperville, Weber County.

The students were blessed and set apart for their useful sphere of work under the hands of Apostles F. D. Richards, J. H. Smith and H. J. Grant.

In the evening pleasant and happy hours were enjoyed by doctors, students and friends. Music, songs, recitations, speeches, pleasant conversation and delicious refreshment were the order

of the evening. President Angus M. Cannon, Sisters Zina D. Young, E. B. Wells, M. A. Freeze and many others were present and joined in heartily congratulating the ladies who had devoted themselves so assiduously to their studies during the past six months.

The Drs. Shipp have been requested to teach a "Nurse school" as there are so many young ladies and also young mothers who do not care to delve into the science of obstetrics but yet consider nursing a part of every woman's education. This is our sentiment and we think that no woman should undertake to raise the most precious and beautiful of all "flowers" without understanding the *care* they require.

Serious thoughts were awakened while admiring some beautiful fragrant flowers, and I could not help but think how good in God to bestow upon us such beauty and fragrance. I was completely charmed as I listened to a lady, the owner of the flowers, and realized what a study she had made of these plants, the time and thought she had devoted to their cause. She was so animated and earnest as she explained to me the different requirements of her flowers, how often this flower must have a drink, another not needing nearly so much water. This one demands sunshine, but this beautiful one would wilt and die if the sun should shine upon it, etc. I saw that she understood exactly what the requirements were to have the flowers healthy, beautiful and fragrant.

But as I turned my head I could not suppress a sigh, there stood several puny, badly nourished, sickly looking children who were famishing for a mother's care.

They looked as though they needed watering, feeding, rubbing, and all the necessary attentions; that are so much more efficacious and sweeter when given by a mother's hand. On entering her house I found that although the sun had been seen in the heavens for nearly four hours that day not one ray of sunshine had penetrated into any room of the house except the kitchen. Involuntarily I exclaimed "Oh! It might be cloudy this afternoon, had not you better raise all the blinds and allow the sun to shine in your rooms? Send the blinds way up to the tops of the windows, so the sun will not only peep in but find free access to every corner. You realize that some of your flowers will wilt and die if deprived of sunshine, yet it is a thousand times more essential for the health and beauty of your family that the house they dwell in should be disinfected, purified and warmed by the rays of the sun."

On entering the bed-rooms my heart ached and a sense of faintness crept over me. Those rooms, those poor beds never knew the difference between a cloudy day or when all nature was rejoicing and indulging in gay festivities. The beds had been made before the occupants left the room in the morning, night-dresses nicely folded and tucked under the pillows. How I longed to have the blinds torn from the windows, the windows lowered several feet and to throw the bed and bed-clothes on chairs spread all around where the sun-beams could fairly dance upon them; yes, let them engage in the Sheet Shottische and Pillowcase Waltz. The night-dresses! How convenient to have colored night-dresses, they don't get *dirty so soon*; well, I wanted

to carry them out-doors, hang them on the line where the sun and air could have a fair chance to "play upon them."

While chatting with the mother upon the food she gave her children, I found that each child is supposed to eat the same kind of food and if one child should not like it, he must wait until he is *hungry* enough to like it, or till sometime when another dish is prepared which is more palatable. It had never entered the mother's mind that one of her darlings needed material to form bone, another was more deficient in muscular tissue, and still another's nervous system was being more greatly taxed and was crying for nerve food and so on. These materials are furnished by the food we eat, so mothers do not compel the little one to eat when it does not want to, nor what it does not want. And again I would enter a plea that more time be given to children to eat.

We hope the idea is banished forever that the old folks can sit for an hour or more over their dinner, chatting and enjoying themselves, but when the little ones come to the table, all talking must cease, and it is 'hurry up now so we can wash the dishes.' Some people forget that children have rights in the world.

Many times our little darlings are afflicted with indigestion, slight colds or mild attacks of children's diseases, when hygienic treatment and good nursing may be all that is required.

These are some of my reasons why all ladies should receive instructions on the care of children.

Maggie C. Shipp, M. D.

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THE CARE OF THE SICK.

No. III.

BY THE EDITOR.

There are many conditions that result from various maladies that can only be remedied by proper feeding, having a strict regard for the kinds of food administered, to meet or remedy these conditions. The patient has been wasted away. The adipose tissue has been almost consumed. A cachectic state exists. The sick man is pale, anemic, his flesh is shrunken, he is weak and debilitated, medicines cannot build him up any more than medicines can make the child grow. Relief must come from the same source that supports our bodies in life. Nourish the tissues. This nourishment comes only from the proper kind of food.

To supply the fat that the body has been deprived of and restore the muscular force that has been lost by sickness, the diet must consist of both nitrogenous and carbonaceous constituents. Foods that contain large quantities of the fats, occupy the front rank as fat-formers. Those that are most frequently employed to restore the emaciated, are fat meats, milk or cream, olive oil and butter—next in importance may be mentioned sugar, sweet fruits and vegetables. Those foods that contain large quantities of the starchy elements can be utilized for the same purpose. For in the pro-

cess of digestion the organism has the power of transforming starch into fat. In this last class of foods may be mentioned bread, potatoes, arrowroot, rice, etc. It has been a popular notion, for nursing women who were somewhat debilitated to resort to the use of malt liquor, beer, ale or porter, to help the flow of milk and maintain their strength. No doubt these beverages exert some influence in this direction. But it is undoubtedly true that milk is much better for accomplishing the same purpose. In listening to lectures on this subject we were taught by our professor that "there was less force lost in the conversion of cow's milk into human milk than in the complex process needed for transforming the nutritive elements of malt liquor." The same holds good as to the easy conversion of fatty foods, and those that contain sugar, into fat. It is equally true that the use of muscular tissues (lean meat) and the juices from them is preferable for muscular growth and the increase of muscular power, as they are more easily applied by the organism for such purposes.

There is great benefit to be obtained, in those diseases that rapidly waste away the patient, to employ olive oil by inunction, that is to thoroughly anoint the patient all over. The skin has the power to absorb the oil and by this means to supply, in a measure at least, the fat that is being con-

sumed in the body by the "burning fever."

For those who are suffering from a scrofulous tendency, or are afflicted with lung trouble such as consumption, where both the flesh and fat are taxed by the disease it becomes necessary to administer that kind of diet that contains a combination of the flesh and fat forming foods.

In children suffering from rickets, where the trouble lies in the bones, the diet should be rich in bone elements, such as the phosphate of lime and other phosphate salts. These elements are found in Graham bread, cracked wheat and oat meal, where the outer covering of the grain is retained, for it is in this covering that such elements abound.

If there is a tendency to gout or rheumatism, the uric acid diathesis the doctors talk about, the diet should consist chiefly of farinaceous vegetables and acid fruits. Persons suffering with these maladies should not be given animal food or such articles as contain largely, saccharine substances. It is in some forms of kidney trouble where we see the most pronounced effects resulting from the kind of nourishment taken by the patient. Particularly in that variety known as diabetes. There is probably no form of disease that attacks a man that is influenced so much for good or evil by what he eats, as this same *diabetes*. It is the sugar that is so harmful. Prof. Bartholow, speaking upon this subject, says: "All saccharine substances and fruits and vegetables containing them, and all farinaceous foods, the starch of which is easily convertible into dextrine and sugar are injurious in diabetes. In this prohibition are included bread,

potato, beets, peas, beans, sugar, milk, pastry, and sweet meats of all kinds. Tomatoes, celery and raw cabbage are not objectionable. In order to compensate for the loss of bread the greatest deprivation endured by these diabetics, gluten and almond bread are now prepared. To supply the deficiency in the alimentation of diabetics caused by the withdrawal of the starch elements of the food, fats must be used as butter, olive and cod liver oil, fat of meat, cream, etc."

From the spirit of this teaching it is easily discernible that the kind of food is more to be depended upon than drug medication for the relief or cure of such patients. And as we more closely investigate the subject the more plainly does it appear that "proper feeding" has more to do with the recovery of sick people than the prescriptions compounded by the pharmacist. We would not be understood that there are *no* virtues in drugs if they are administered by skillful hands, but we are in earnest when we say that the prevalent use in domestic practice of drugs and medicines *ad libitum* by persons that do not even claim any knowledge of the physiological action of remedies is most baneful in character. If the attention of those having the care of the sick (the intelligent nurse it should be) were directed into the channel of suitable alimentation, as the best thing that can be done in domestic practice, there would be a great advance made in the proper care of the sick.

All diseases are attended with more or less fever. In some varieties they are characterized by a very high or "hot" fever. When this is the case there are great ravages made upon the

different tissues. The strength of the patient soon fails. To maintain this strength or vitality is the great consideration. To build up the tissues as they are being destroyed demands our vigorous attention. Alimentation is our resource. And milk our prince of diets. "But," says grandmother, "if you give that child milk you will feed the fever sure, and the child is already in a raging fever." Yes, mother! perhaps you are not far wrong, but as you say the fever is "eating the child up" would it not be good practice if we can, to give the fever something else to eat, and you say "milk will feed the fever"—or in other words the milk that has all the constituents of the body in its elements is so readily and easily digested and assimilated, that with this food the strength and tissues of the body can be sustained with the least effort. So it is that in milk we have the very best food that we can give to our sick folks. It is only in those special cases where it is contra-indicated as have been already mentioned that it is not the best thing we can give in sickness. The manner in which it is taken is important. It should be taken slowly, swallowing but a little at a time. If you drink it down rapidly the curd forms into a solid mass. But if a little only is taken at a time it forms a number of small masses. This gives the gastric juice of the stomach a better chance to get at it, for the purpose of digestion. Quite a consideration when the patient is seriously sick.

The following formulæ will be found excellent for preparing some dishes for the sick.

Lemonade.—"Put the juice of a lemon to a pint of water, in which an ounce of sugar has

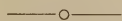
been dissolved, then add the white of an egg and froth it up. It may be iced."

Oat Meal Gruel.—"Put a pint of water into a saucepan; into this stir a couple of tablespoonfuls of oatmeal until quite smooth; let this boil well for ten or fifteen minutes, season with salt, then strain through a strainer and add a little port wine (a hard thing to get.—ED.) and sugar if the patient may have it."

Whipped Cream.—"Beat half-a-pint of fresh double (thick) cream with a whisk, add a dessertspoonful of very finely powdered loaf sugar, and twenty drops of essence of vanilla or any other flavoring; when firm it is ready for use, but much improved by being on ice for an hour or two."

Corn-Meal-Milk-Gruel.—"Sweeten a quart of milk, and stir in two tablespoonfuls of corn meal. This must be carefully cooked as the meal is apt to scorch, and must be stirred while cooking. A little nutmeg grated on top after it is done makes a pleasant flavor. If the gruel is desired thick more meal will be needed."

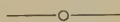
Corn Starch Pudding.—"One quart of milk, four tablespoonfuls of corn starch, four eggs, one tablespoonful of butter, six tablespoonfuls of sugar, dissolve the corn starch in a little cold milk, and having heated the rest of the milk to boiling, stir this in and boil three minutes, stirring all the time. Take from the fire and while still hot put in the butter. Set away until cold. Beat the eggs very light, whites and yolk separately, stir in the sugar and any flavoring desired in the yolks, and then add the beaten whites and stir in the corn starch, beaten thoroughly to a smooth custard. Turn into a buttered dish and bake half-a-hour. To be eaten cold."



BALD-HEADEDNESS

There is much wearisome and needless discussion about bald-headed American men. Wash your head thoroughly once a week with a lather of soap and water, rinse all the soap out, and rub the scalp lively till it is entirely dry. Never wear an unventilated hat, or any hat at all when you can avoid it. Wear a straw hat instead of felt, whenever possible. Give your scalp plenty of sunlight, also

plenty of air. Don't smoke too much. Follow these directions, and you will never be bald-headed. Even if your hair has begun to get thin, it will revive. Canadians are bald because they wear fur caps. It is the wearing of hot and unnatural head-coverings that makes the hair fall out. If a quite bald man should go bare-headed in the sun and air a year, it is likely that his hair would come in again, and he would never take cold. Remember this: Nature meant your hair to keep your head warm, not for caps or felt hats. Felt hats and silk hats are an abomination. These are the wretches that make American men bald-headed. It is not their mighty intellects or their excessively fine nervous systems. If you render the hair superfluous by making hats do its duty for it, nature takes it away. She will not tolerate senseless things.



HYGIENE VERSUS SURGERY IN GYNECOLOGY.

By JULIA W. CARPENTER, M.D.

In almost every department of medicine vigorous search is being made for the cause of disease with a view to its extermination; or, if that is not possible, with a view to a more certain method of treatment.

Koch, already in possession of the palms of victory for having ferreted out the bacillus tuberculosis, takes his life in his hand and goes to dangerous fields to win new laurels by verifying to the medical world the cholera bacillus, or the cause of another disease. The search in every direction for germs and germicides is to prevent disease, not simply to repair damages.

But there is one large department of medicine where the causes of disease seem not to claim much attention, but wonderful talent and ingenuity are expended in devising ways and means of repair. This department is gynecology.

One can read book after book, journal after journal, and the papers of all the brilliant specialists at the annual gatherings, and see almost no word of cause and prevention. One does not have to go to Africa or the isles of the sea to find the direct cause of some, and the predisposing cause of many of the diseases in this department. This cause is so near it is overlooked. It is also an insuperable obstacle to successful treatment, prolonging cases, preventing permanent relief, and producing surgical cases that would otherwise never exist.

The cause is the weight of clothing on the hips.

It is sometimes easier to credit a new discovery than to believe that an old custom is not right. But nevertheless, instead of the many pounds resting on this part of the body, not one ounce can rest there with impunity. Reference is here made only to the ordinary dress when not hygienically changed, and not all to tight lacing. That has its place by the side of the Chinese foot and the Flat-head Indian, with this difference, that it exceeds both in its disastrous results.

I have found three valuable papers, published within eighteen months, regarding the unhealthy dress of women; one by a neurologist, however, and two by those more interested in gynecology. Now, while three papers have been published on prevention, there have been hundreds on

surgery to repair damages. These three articles are chiefly on the injury done by the corset. While that is of course vast, there are hundreds of women who wear instead a hygienic waist, but the weight of clothing still resting on the hips puts them also, as well as the others through a process more or less rapid towards invalidism.

The reasons why there should be no weight on the hips, nor pressure on any part of the body from the seventh rib down, anatomy and physiology make very plain. The pliable walls of this part of the body are made up chiefly of muscles. Now, the effect of pressure on muscles is well known. Pressure alone on muscles causes it to dwindle in size; and as its action is interfered with at the same time, it becomes still smaller from dis-use. This result is seen in the muscles of a limb that has been bandaged a length of time on account of fracture. The large muscles that envelop this part of the body are always in just this state, for the pressure on them is greater than that of the bandages on the fractured limb.

To get some idea of the loss to the body of this feeble state, one has only to recall what muscles these are and their functions. A good condition of the abdominal muscles is indispensable to perfect health. On the posterior surface are muscles intended to be large and powerful. First the *latissimus dorsi*, one of the largest in the body, and attached at its upper extremity to the *humerus*. The fleshy part of this muscle is subjected to the pressure of the closely-fitting waist, so arm power is lost.

The chief muscle of importance in this connection, however, is the

erector spinae and its prolongations. The main part of this, a large fleshy mass, fills in the space between the last rib and the crest of the *ilium*, just the place where the stricture of the clothing is greatest. This muscle is to maintain the spine in its normal position, and also serves to bend the body backwards. The normal position of the spine is erect, with a graceful curve inward in the lower dorsal region. This muscle is so weakened that in a vast number of women the spine curves just the other way; there is a most ungraceful curve outward. One is now so accustomed to this form that it is almost regarded as natural. This change of curve from concave to convex changes the relative position of organs within. Naturally the pelvis is at such an angle with the spinal column that the organs within it sustain very little weight from those above. In the altered position, all the viscera are in a direct line, and the lowest ones suffer from this increased weight. The weakening of this muscle alone will also explain many a backache.

As to pressure on organs within, one might suppose that a part of the body left entirely free by nature it would not be safe to compress in any way. From the seventh rib to the *ilium* is the part thus left free. There is no bone but the vertebral column behind and the last five ribs, which are compressible, two being floating, and the other three easily movable by reason of their special cartilaginous attachment.

One sees easily that there should be no pressure on the heart and lungs, but forgets why there should be none on the digestive organs. The two

vital reasons, of course, are the following :

These organs vary in size according to the amount of food and the stage of digestion.

The second is their constant slow movement.

This vermicular motion is checked by a very little pressure. Pressure here is the cause of many obscure forms of dyspepsia. For instance, a patient complained of emesis after meals. She was a strong healthy girl, and no cause could be detected. Various aids to digestion were prescribed with no result. I then induced her to lessen considerably, but not entirely, the pressure over the digestive organs and the trouble vanished. Now, if all bad effects were as evident and as disagreeable, a reform would be speedy.

One sometimes says, Yes, that all applies to tight lacing, but the weight referred to rests on the hips. Well, what are the hips? The only bony part is the crest of the ilium at the outer edge, and how wide is it? The rest is simply soft parts, made up of the muscles referred to and internal organs beneath. And the shelf on which the weight hangs is greater or less according to the degree in which these parts are pushed inwards out of their natural curve. And the broader the hips, the wider the soft shelf and greater the damage. Think of hanging weights on soft parts, and keeping muscles always on the stretch! As the human body is not yet understood, as its recesses are so deep that chemistry and the microscope have not yet penetrated these, is it not strange to interfere with the body regardless of consequences?

The muscles that envelop the body are not the only muscular tissue that suffers. Lacerations of the cervix would not be the order of the day if muscle had its normal tonicity.

This superincumbent weight not only injures the texture, but changes more or less the position of everything beneath it. Gynecologists agree that antiflexion rarely comes suddenly; that it is a progressive disease. Many others are likewise.

I have been told by several authorities that at the beginning of our Civil War there were companies of zouaves that wore some part of the accoutrements attached to a belt around the waist. But so quickly was it disastrous, and so numerous were the men that were disabled with hernia, that they were obliged to discard the belt and suspend this same weight from straps over the shoulders, when there was no further trouble.

Now, it would have been just as sensible to go on devising all kinds of operations for hernia, instead of preventing it, as it is to work on in gynecology without removing this same weight. As long as there are weights above to press everything downwards, so long will there be a necessity for devising operations to shorten ligaments, suture a displaced organ to the abdominal walls, and remove entire organs, otherwise healthy, for pain only. Instead of operating on organs pressed upon, remove the pressure first; then if recourse to an operation is still necessary, there is some foundation for permanent success.

If internal supports are used with this weight above, something must suffer, for some of the tissues are then,

so to speak, between the upper and the nether mill-stone.

All this is no theory but solid fact. Experience corroborates it. Removing this weight is a hidden secret of success, and the reason why I have succeeded a number of times where my predecessors failed. One marked instance is as follows: It is of interest, as the individual and the case were both well known. A young lady was doomed to the operation for the removal of both ovaries for extreme pain. This was the sentence of a surgeon who had performed this operation many times, with success it was thought. She had been under his care for a number of years, and, failing to give relief, he pronounced this verdict. She and her family were about resigned to endure these scenes every few weeks, until they could be reconciled to the operation. When, several years ago, she first put herself under my care, after a thorough investigation I told her if she would co-operate and re-arrange her clothing hygienically, she could probably be relieved. To this she gladly consented. The result of this, with treatment, was that in one month there was wonderful improvement, and in a few months she was absolutely well. The treatment was very simple, perhaps just what she had received before. The secret was, I simply removed the cause of the whole trouble in removing this superincumbent weight, and the other treatment overcame the injurious effects; and thus one physician accomplished in a few months what another had failed to do in a number of years and would have removed a part of her body as a last resort. There was no change made in the

external appearance, except that a very sunny face took the place of a sombre one.

Another similar case is interesting on the other side. The young lady had had several physicians without relief; had been sent abroad for her health, but returned just the same. Hygienic dressing found with her but little favor. She consented to a little change, and that, during the summer, with the lighter clothing of that season, brought an improvement most gratifying to her. But when winter came she preferred the fifteen-pound cloth dress with extreme pain to a lighter one without it, and she has her choice. Dressing as she does, there is no balm in Gilead for her except anodynes at the time or removal of part of her body.

If there is a tight cord around the neck, one grows red in the face; and to remove the congestion, how useful are salves and lotions, fresh air and trips abroad! Many operations are disappointing where success was expected. Voices like the following are now heard here and there. At a late meeting of the Phila. Co. Med. Society when abdominal surgery was the subject of discussion, Dr. Theophilus Parvin said: "I have seen a woman whose ovaries had been removed on account of pain; the suffering returned as severely as ever, and then the stump of each pedicle was taken away, but not the slightest benefit followed; a year after the last operation she was as bad as before the first." "I have myself removed the coccyx for well-marked coccygodinia, and for a time the benefit was marked; and then came just as severe pain in the sacrum as there previously had

been in the coccyx." "Let us honestly and impartially look at both sides of the picture; see the dark as well as the light offered, and not be carried away by contemplating only the latter." Statements of this kind are bound to be heard more and more until the cause that predisposes to any pelvic trouble is removed.

The number of operations performed is wonderful. One physician alone at Battle Creek, Michigan, reports sixty-nine cases of shortening the round ligaments in two years. And though nearly all were regarded as successful, he says in his report: "Alexander's operation is not to be considered as a radical cure, but only as a most efficient aid to other means. It restores the organ to its normal position and gives it, so to speak, a new chance to stay there, *if it can.*"

One may say, What can be done? Well the facts remain just the same whether anything is done or not, but much can be done. It is not necessary to change the external appearance at all. Physicians must first see the necessity themselves. Then if they will teach this truth everywhere as they have opportunity, and above all impress on each patient the fact that instead of the many pounds not one ounce should rest on this part of the body, pounds and pounds would be laid aside. *Women would devise their own ways and means.*

It will not do simply to suspend the present weight from the shoulders. It is not in a small bulk as with the zouave company, so it can be lifted easily, but is so voluminous and clinging it presses in spite of suspension. *So much weight must not be there to suspend.*

Teach every patient that all organs are pressed downward out of place, the circulation is interfered with and a venous stasis results, and that a continued congestion can be the starting point for disease.

Tell them that investigations point towards venous hyperemia as the condition for *abnormal growths*. A prospect of tumors would have some influence.

'Tis true, in teaching hygiene in this department an obstacle is met in the fact that most women do not see that their dress is an unhealthy one as long as they are not the victims of disease. But health is not simply the absence of disease. They say, "I am not conscious of any weight." That is simply because in all these muscles the muscular sense is lost.

If these same persons dress hygienically for a few months, recover their muscular sense, and then go back to the old weights, they can hardly see how it was ever endured.

If that part of the body was absolutely free, there would be a vast army of women in a normal condition, and not the weary invalid corps that is adding to its ranks so fast that gynecologists, multiplying as they are everywhere, will not be too numerous, and all the ingenuity spent in devising new operations will not be able to stem the tide.

Surgical cases, unavoidable, will always exist; but the great requisite in this department is hygiene—that is, acting in accordance with the known laws of the body in order to preserve health and prevent disease.—*The American Journal of Obstetrics and Diseases of Women and Children.*

MIGRAINE.

BY DR. E. J. OVEREND.

I have chosen this topic to write upon because I have something to say which I think of value and which is not contained in standard or current literature.

The society conferred the honor of appointing me to prepare a paper upon the more recondite subjects of histology and pathology. But I have taken the liberty to select my topic from another field, because I had nothing of value to offer upon those subjects; and even had I labored in that direction could only have prepared a digest of recent literature in those departments.

In my opinion it is time that papers of that kind were left unwritten and unpublished. My excuse for selecting a hackneyed subject is that experience with the disease in my own person, has taught me a few things of value and led me to a more intimate knowledge of the strange disease, from which as a vantage ground I can speak with greater confidence.

I hold that a patient with medical training can offer more valuable testimony than one without. The one has the advantage when it comes to an estimate of the subjective phenomena of disease.

The attending physician sees but the objective symptoms; he knows only of the subjective through the medium of language itself of necessity inaccurate; on the other hand, when the knowledge to interpret, and the subjective phenomena exist in the same person, there is obviously larger opportunities to study the problem.

This proposition refers, of course,

only to affections not producing great aberration of the faculties.

As a single illustration of work done under this stimulus and advantage I will refer to the classical treatise on Neuralgia, by Dr. Anstie—a life-long martyr to the painful affection.

Plato said that a doctor should have all manner of diseases. Doubtless, the philosopher meant to refer to the advantages gained by a personal familiarity with the subjective phenomena of disease. Of course, it would prove very inconvenient to carry on a large practice, while burdened with such a pathological cargo. But Plato spoke in the interests of the patient and not the doctor.

Now I have selected the term "migraine" in preference to the many others used to designate this affection because it does not accentuate a non-essential symptom. The common term "sick-headache" is faulty because it does not define a neurosis. Hemispheres refers to a peculiarity of the headache, which exists, according to my observation, in the minority of instances.

The pain of migraine is usually felt through the whole cerebral mass, and it cannot usually be located here or there. From this on what I have to say may appear somewhat disconnected. This will appear so because I shall refrain from incorporating the great mass of facts that are current, the repetition of which would only tire you as you could readily anticipate the successive steps in any paper that merely aimed to be a digest of standard literature on the subject.

I shall, however, take the liberty of referring to facts of which you are perfectly well aware, for the purpose

of emphasizing them and directing more careful attention to them.

First, the disease is almost purely a neurosis: this is a truism often forgotten when it comes to treatment. It is an hereditary neurosis, an incurable neurosis; but not incapable of spontaneous cure, as in women after the climacteric. Under proper management and treatment the attacks, however, may be occasionally aborted, or modified and rendered less frequent. As to the pathology, nothing is definitely known. There is, however, here, as elsewhere, no lack of theories: speculation has been abundant. But it is all guess work. In passing, one cannot help but remark how even great minds are given to the easier work of speculation and theorizing, than to the more difficult task of close clinical study or experimental research. If the spirit of science teaches anything it teaches the absurdity of speculation when the facts are not all in.

I will not burden this paper with a recital of these theories which accuse every organ of being the peccant one.

Suffice it to say that the predisposing cause comes by heredity. The exciting causes are various and manifold, some of which I will take to dwell upon.

I would say that the most common exciting cause is to be found in an unhealthy condition of the digestive viscera. And I cannot help thinking that this condition excites a migraine by peripheral irritation of the pneumo-gastric, which produces cephalalgia by the irritation being conveyed by the nucleus of the nerve.

Now a host of causes may produce this unhealthy condition of the diges-

tive viscera; such as errors in diet, irregular habits of eating, or undue haste in eating, in fact anything which tends to weaken digestion. This applies also to insufficient rest, overwork, either physical or mental; particularly the latter, which latter includes anxiety and worry. With reference to diet, it has seemed to me that an excess of hydrocarbons, particularly in sedentary persons or those of feeble hepatic power tends to excite migraine, as it induces the bilious condition which so readily provokes the neurosis.

Perhaps there is no one cause, however, so powerful as late hours in retiring to rest, especially when it is combined with mental effort as in study, for the brain cannot readily reduce its tension to a condition of sound and refreshing sleep. But late hours are still further rendered more powerful as an exciting cause when conjoined with a vitiated atmosphere and mental or emotional excitement, as in theater going, evening parties, balls, receptions, etc. Here, again, imprudent eating may, and generally does, enter. But I will dilate no further on exciting causes, the half of them have not been mentioned. It has been my intention only to emphasize the part played by causes exciting the mind and nervous system, and those causes working through the gastro-intestinal and hepatic functions.

The period of prodromata is of clinical interest as offering a warning of the impending storm, thus allowing time for the exhibition of remedies that may abort the attack.

The prodromes are usually exhibited in a general lassitude and languor, anorexia, chilliness, yawning, nausea.

The nausea is at times intense, but is not accompanied by the power of emesis, even under the stimulant of an emetic. There is a peculiar inertia in this condition, where the patient is conscious of much energy, but feels it suppressed or inhibited beyond his power to set it free.

The cephalalgia may begin as a left or right hemicrania, or as frontal or fronto-occipital pain. Very frequently the hemicrania so-called is a localized temporal or parietal pain; and often the eye of the affected side participates in the distress.

To my mind there is no significance in the locality of the pain. The irritated nucleus of the pneumogastric (and I assume this to be the central point of pain) is obviously capable of causing the whole cerebral mass to join in the chorus whether the irritating influence is centric or peripheral.

The external part to which the pain is referred may be only incidental.

Vertigo and various ophthalmic phenomena are among the prodromata, but become more pronounced as the attack advances. In my own case I have observed nystagmus, flitting diplopia and asthenopia. [Eye affections, sometimes felt in sick headache.—ED.]

Further on in the attack a large quantity of limpid urine is voided. This I have not seen as a prodrome, as described by Day in his classical treatise. The urine has a peculiar aromatic odor, differing from the normal odor or the odor of febrile urine. I have also noticed a slight degree of aphasia of the ataxic kind, and some amnesia, as well as a certain difficulty of co-ordinating the facial muscles. These phenomena, preceded by irritability of temper and succeeded by

mental hebetude, seem to complete the analogy drawn by J. Hughlings Jackson between migraine and epilepsy, although I am unaware that he or any other author has mentioned the symptoms referred to the speech, memory and co-ordination.

The special senses of sight, smell and hearing become abnormally acute in the prodromatous stage, and often exquisitely sensitive to impressions in the fullness of the attack; yet, when the attack becomes one of great and unusual severity, the sight and hearing may become blunted—stunted, as it were, with pain. This is the so-called “blind headache.” With regard to olfaction in migraine I have a rather novel fact to mention, and that is that a mal-odor is often a more efficient emetic than the emetic drugs. The explanation is that the stomach is benumbed to such a degree that it fails to respond to local stimuli. Even ipecac, a “systemic” emetic, has failed me repeatedly in several successive drachm doses of the wine. It was not absorbed. I have not tried apomorphine hypodermically. Of course, emesis is indicated only when the stomach is burdened with undigested food. Not only is gastric absorption in abeyance, but there is ground to believe that a temporary paresis of the gastric muscle exists. The organ is functionless in every respect according to my belief—in absorbing power, in peptic power, in peristalsis or diastalsis. Fothergill, in speaking of the effect on a full stomach of the depressing emotion, uses the expression “a palsied viscus.” The phrase appears to suit well the condition of the stomach in migraine. This temporary gastric palsy may ex-

plain why drugs often fail to manifest their more usual effects when administered in migraine—they are not absorbed.

Now, with reference to treatment, I shall not attempt a summary of the therapeutics of migraine—that would, indeed, be a flat, stale and unprofitable task. I wish to reserve space for the consideration of but one remedy, because it towers above the others in efficacy, and, further, because the half its virtues are either unknown or underestimated. First, however, let it be remarked that the closest scrutiny should be made into the habits, dietary and hygienic surroundings of the individual for possible or probable exciting causes. By eliminating these first we will be able to reduce the frequency and even severity of the attacks.

Now, as to drugs, there is beside caffeine but one that deserves eulogy, that is antipyrine. Cannabis Indica deserves mention because of its power to remove the head-pain, but it neither shortens the stay of the other symptoms or mitigates the gastric distress. Besides, it will be neither satisfactory to patient or physician to prescribe it, because the great bulk of that kept in the shops is inert.

Nitro-hydrochloric acid taken early in, large doses (20-30m.) often repeated, serves frequently to dissipate an impending attack, if the onset is slow and does not betoken severity.

To return to antipyrine: it exhibits wonderful power in annihilating the cephalalgia, and shortening the duration of the attack, as well as aborting attacks when taken while the prodromata are in progress. But I find that the stomach is frequently intolerant of it even when freely diluted; and

when this is the case, it but increases the gastric distress without ameliorating the other symptoms.

In caffeine, however, we have a drug that more nearly approaches an ideal one. In a majority of cases it is capable (in doses of two to five grs. hourly) of aborting attacks. When it fails in this, it accomplishes amelioration of all the phenomena. It, however, scarcely fails to prevent attacks, *if taken sufficiently early*. Should the patient procrastinate, hoping that the threatening symptoms will disappear, the migraine is given an advantage that the drug finds harder to overcome. Therefore, I insist on this point: *Do not let the patient reserve medication for the height of the attack, which they are prone to do. But instruct them to employ it early when the prodromes appear.* All patients recognize the prodromata immediately. They do not have to be taught the indications.

In order to spare the patient the distress caused by nauseous tasting drugs on a morbidly acute gustatory sense, I am in the habit of ordering the drug dispensed in capsules. A capsule followed by a swallow of water minimizes the disgust which is commonly felt in swallowing anything.

Caffeine come as near being a specific in migraine as does quinine in intermittent fever. I am not sure but its claims to specificity are superior. Like quinine its prophylactic power exceeds its curative power. This is a point hitherto unobserved so far as I know.

The effect of the drug is also strikingly exhibited in a removal of the mental dullness. It quickens physical and nervous energy, stimu-

lates cerebration. Ideation is active, words come easily; in fact, the stimulating effect upon the mind is quite similar to that produced by alcohol without any of the inebriety.

Caffeine is grateful and acceptable to the stomach; and here it rises superior to antipyrine, the only other drug that can pretend to dispute supremacy with it in migraine. It is a stomachic tonic; it is also gently laxative, probably by increasing peristalsis, arguing from its excito-motor effects. It does not enslave as the narcotic remedies frequently employed in migraine do.

Another remarkable effect of caffeine, not mentioned in the literature I have perused, is that it is capable of satisfactorily substituting a meal for a period of hours. This is true, not only of the migranous condition, where it simply supports, and where there is naturally no desire for food; but in the normal condition as well, it can hold in abeyance hunger, and quiet a clamorous and empty stomach as nothing else but a meal, or possibly sleep can. This is of value to belated travelers or persons employed on boats or trains where circumstances so constantly arise that delay meals. Right here it should not be forgotten that delayed meals forms an exciting cause to trouble in migranous patients, not alone by weakening the stomach because of the fasting, but because it leads to hasty eating, imperfect mastication, and overfeeding, as a consequence of an abnormally whetted appetite.

I have experienced through caffeine all the lauded virtues of coca; but never in the latter itself have I been able to discover its supportive or

stimulant effect, save that due to the vinous menstrea in which it was conveyed.

It is not enough to say that caffeine produces wakefulness: the truth is better expressed by stating that it acts as a substitute for sleep. Here it is capable for doing yeoman service for the fatigued practitioner who is compelled to sit through a weary nocturnal vigil by the bedside. In obstetric practice with troublesome patients it would be of value to the doctor, for in this work he needs treatment as well as the patient; frequently she needs nothing but the *presence* of the accoucheur.

Let those who take coffee to keep awake, try its alkaloid, caffeine, and they will not return to coffee except for use at breakfast. As caffeine is rich in nitrogen it may be a nutrient as well as a check upon tissue-waste. My experience leads me to believe that habit does not weaken the influence of caffeine as it does coffee. Another point of dissimilarity between the parent drug and its offspring, is that none of the "bilious" effects of the former are noticed in the latter.

It would seem that the sphere of usefulness of caffeine in cardiac disease with dropsy would be better appreciated, from the fact that it is tonic to the cardiac muscle as well as marked diuretic. It strikes me that the diuretic action of the drug is commonly underestimated. The conclusion forces itself that the drug stimulates diuresis by acting on the kidney direct, and not alone through the heart, since the diuresis occurs without any change in heart action to be detected through the pulse or by the stethoscope.

One word in regard to the proprietary preparations containing caffeine, such as bromo-caffeine (Warner), phospho-caffeine comp. (Reed & Carnrick), they are not rich enough in caffeine, and are united with unnecessary drugs. With regard to the formulæ they are, as in a majority of proprietary preparations, defective, as they do not represent therapeutic equivalents. One cannot help thinking that the cost of ingredients plays some part in determining the proportions employed. Let no one be surprised if he fail while employing the effervescent proprietary preparations of caffeine, there is more "fiz" than caffeine in them. If they act satisfactory it is because the case or cases did not require a remedy of much power. I have noticed two varieties of the citrate of caffeine with regard to the character of the crystals. One has the granular appearance of common table salt, the other is composed of fine, silky, needle-like crystals that agglomerate readily. The explanation of this difference is unknown to me; but I have found the latter variety to be the more potent therapeutically.

Should capsules be objectionable to the patient, and a solution preferred, salicylate of sodium should be combined with the citrate of caffeine, as the former salt renders the latter more stable, besides acting as a synergist if recent reports are correct.

No mention has been made in this paper of guarana, an efficient remedy in migraine. But as its remedial virtue resides in its alkaloid, guaranine, and as the latter is identical with caffeine, it needs no further notice, except to say that, as it is exceedingly nasty, it must take a subsidiary place.

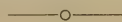
[The editor of the *Journal* is a member of the Alameda County Medical Association, and takes the liberty of presenting some notes of the discussion on Dr. Overend's paper.

Dr. Bradway had used caffeine very successfully by hypodermic injections as well as by the mouth in the treatment of migraine. He cited two cases in which the effervescing hydrobromate of caffeine combined with bromide of potash acted as a charm. The medicine was taken during the prodromata.

Dr. Wilcox administered the bromo-caffeine with much success.

Dr. Russell said that he was particularly pleased with the action of antipyrine in migraine. For years he had been a sufferer from headaches of a severe type, and had, of course, used many remedies. Common table salt, a teaspoonful, often acted effectively; also acid. nitro-mur. dil., 40 to 50 drops in a glass of water, drink one half, and the remainder in an hour if not relieved, was a good remedy. The acid seemed to be called for and gave frequent satisfaction. The acidity or non-acidity of the urine should be noted.

Dr. Muller had found caffeine $2\frac{1}{2}$ grs. with bromide of soda 25 grs. and sach. pepsin 5 grs., given every four hours, to act most favorably with some patients with whom caffeine alone had not proved efficient.—ED.]—*Pacific Medical Journal*.



Time will discover everything to posterity; it is a babbler, and speaks even when no question is put.—*Euripides*, *B. C.* 460.

POSTURAL TREATMENT OF CONSTIPATION.

A recent paper on constipation by an eminent surgeon of this city, and its discussion before the Boston Society for Medical Improvement, embolden me to speak of a source of trouble unnoticed, so far as I know, by former writers. I allude to a faulty and unnatural posture at stool.

The act of defecation strongly resembles the expulsive stage of labor. The main propelling force in both cases in the contraction of the diaphragm and abdominal muscles, mere uterine action and intestinal peristalsis playing a subordinate role in both acts when physiologically performed.

The importance of posture and other aids in bringing out this natural action of the abdominal muscles in labor is tolerably well recognized by modern writers on midwifery. One often sees women in confinement quit the bed and take up a crouching attitude on the floor, instinctively feeling that they can bear down better in this position.

The pulling and pushing movements with hands and feet so universally witnessed are directed to the same end.

Sixteen years ago I had myself the fortune to hit upon a simple and effective contrivance for this purpose which has proved of vast use in my hands. A description of it may be found in the *Boston Medical and Surgical Journal* of June 11, 1874. It consists simply of a twisted sheet with the ends tied together in the form of a ring or loop, in the lower part of which the feet are placed and pushed downwards, while the upper end is pulled upwards with the hands

or wrists. It calls the whole set of waist muscles into powerful action, and secures, where the way is clear, a prompt and natural delivery.

But to return to constipation. I feel sure I cannot be mistaken after twenty years' practice, and, I may say, almost daily study of the subject, in thinking that a faulty posture at stool and consequent inertia of the abdominal muscles have been among the commonest causes of the disease in the patients under my care.

A gentleman having finished his breakfast and lighted his cigar, retires, with the morning paper in his hand, to a cosy and well-heated apartment, takes a comfortable seat and between reading and smoking passively awaits the tardy operation of nature. He either takes no active part at all, or at most inflates his lungs a little and holds his breath, thereby depressing the diaphragm, but having no marked action on the other expulsive muscles—the straight and oblique abdominal, the *psoae* and *quadrati lumborum*. As a result the bowels are imperfectly emptied, a residual mass is left behind in the colon, which, accumulating day after day, must finally be evacuated by artificial means.

Put the same man in the woods, say the Adirondacks. At the call of nature he seeks the nearest thicket, and there assumes a strictly physiological attitude. He neither sits nor stands, he squats. Every muscle of the back and abdomen is brought into play, the bowel is rapidly and completely emptied; and, vacation ended, he returns to his home a new man.

Watch any of the lower animals, the dog, the cat, the pig, the ape at the menagerie, even the horse and

cow when hard bound—always an approach to the same attitude. I suppose everyone has noticed the same thing in young children.

I believe I need offer no apology for these observations.

We ought, then, to expect, what I have found to be the case, that the assumption of a correct posture at stool would prove a sufficient cure for what may be called passive constipation. The sitting posture should be interdicted, and a stooping one substituted. If the construction of the water-closet does not admit this it should be altered. The margins of the basin should be leaded, and wide enough to afford room for the feet on each side. Above this should be two covers, the lower one perforated, the upper not. One of the best arrangements, for men at any rate, would be to abolish the seat altogether, and have merely a stone or marble slab, with a hole in it, as is often seen in Europe, at or near the level of the floor.

For ladies the matter is less easily managed. I have often recommended the use of the chamber utensil instead of the ordinary seat. One lady of most distinguished family and position assured me that this was one of the most valuable suggestions she had ever received. I have found it equally beneficial in other cases.

I have now been using and recommending this posture treatment for twenty years, I hardly know any person of sense who ever properly tried it who did not find it of advantage. With proper diet and exercise it will surely cure the majority of cases with comparatively little aid from medicine. Still drugs and

clysters are needful at times, and in certain cases must be regularly used: though I believe the greater part of those who require continuous dosing are persons too ignorant or too indifferent to try and cure themselves by natural and simple means. The absurd motto *natura duce*, too often made a mere cloak for professional ignorance, here finds a wise and wholesome application.—EDWARD T. WILLIAMS, M. D., in the *Boston Medical and Surgical Journal*.

Pacific Medical and Surgical Journal.

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CUSTOMER: "That was splendid insect powder you sold me the other day, Mr. Oilman." Mr. Oilman (with justifiable pride): "Yes, I think it's pretty good—the best in the trade." Customer: "I'll take another couple of pounds of it, please." Mr. Oilman: "Two pounds?" Customer: "Yes, please. I gave a quarter of a pound that I bought before to a black beetle, and it made him so ill that I think if I keep up the treatment for about a week I may manage to kill him."

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"That little boy of yours is not adapted for the undertaker's business," exclaimed an undertaker to the boy's mother, who inquired why he had been discharged. "What's the trouble with him?" "He hasn't a realizing sense of what is due the afflicted. Day before yesterday Mrs. B. buried her fourth husband. I sent your son up to learn what hour she wished the ceremony to take place, and he asked what her regular time of day was for burying husbands. I expect to lose her custom entirely."—*Milwaukee Wisconsin*.

Salt Lake Sanitarian

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Devoted to the prevention and cure of diseases and injuries, and the promulgation of the laws of health and life.

M. B. SHIPP, M. D., EDITOR.

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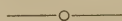
EDITORIAL.

SICK-HEADACHE.

In another place in this number you will find a very interesting article on the subject of Migraine, or as it is popularly known, "Sick-headache." This is a nervous condition attended by considerable suffering. Those who are afflicted seem to have the trouble come upon them at almost stated intervals or with regular periodicity. They watch for the "going down of the sun" hoping the close of the day may bring relief. It is a disease but little understood by the laity, in fact the profession as yet can do but little with it. Remedies have not proven satisfactory. Like nearly all the rest "What is in favor today is cast aside tomorrow for something new." It would not be thus if satisfaction had been obtained. The causes or etiology of this disease may be ascribed in a great many cases to inheritance. The daughters more than the sons seem to fall heir to the malady. Why this is so is hard to tell; but statistics or observations of some practitioners tell us that they find this the case, while heredity may be named as the chief or most prevalent cause. There are other things that may be mentioned

as producing this nervous condition. Prolonged mental strain or worry is sometimes followed by sick-headache—pain in the head. Students at the end of the term when they are "cramming" for examinations are often attacked by the most violent symptoms of this disease. A condition of debility following a long spell of sickness like typhoid or malaria may leave the patient subject to attacks of this affliction. It is usually manifested in early life, seldom makes its appearance after middle life. Nausea and vomiting are usual attendants. The pain is sometimes felt in the side of the head but more usually the distress is located in the forehead. Generally the paroxysm or attack lasts but a few hours, but in the severe cases two or three days may elapse before relief is obtained. The disease is not often attended by any serious results save the suffering and pain to be endured, and if the attacks are frequent they become exceedingly annoying, interfering with the routine of life. The complete recovery, that is, no recurring attacks, is not often accomplished. Although, as the patient advances in life it becomes less severe, the attacks not occurring so often. As has been already intimated, treatment has not given us very promising results. Careful diet and hygienic regulations, the avoidance of excitement, mental strain or worry gives us the best prophylactic measures. The citrate of caffeine combined with carbonate of soda is spoken of by many practitioners as giving the best results of any medication tried heretofore. The dose will be about five grains of the caffeine and fifteen grains of the soda. Errors of diges-

tion should be promptly attended to. The tranquility of the nervous system be preserved as much as possible. A quiet life free from excitement should be led by those afflicted.



POISONS AND THEIR ANTIDOTES.

BY ELLIS R. SHIPP, M. D.

A very important part of the practice of medicine that appropriately comes within the domestic province is the study of poisons, their effects and their antidotes. And upon these points our knowledge must be most accurate, for in almost every case of poisoning, whatever may be the acting agent, the effects are produced so rapidly that there is scarcely a moment to even think, let alone to send a mile or two for the doctor. If the mother knows what to do she may save the life of her child, if not, it is liable to be sacrificed before other help arrives, for the proper remedy must be administered promptly before the poison has time to act upon the delicate structures with which it has come in contact or been absorbed into the system, or reaches the circulation. Some poisons act mechanically, as all the mineral acids and stronger alkalies, while many others must first produce a chemical change in the blood, thus acting constitutionally. One of the most deplorable accidents, and one that is becoming alarmingly frequent, is the poisoning by concentrated lye. Perhaps the careless housewife leaves the box of lye on the floor or lower shelf, the young child thinking perhaps it is water or something good to drink unwittingly places the cup to

his lips and before he realizes how fiery is the beverage, a greater or less quantity has passed down the throat, burning as it goes as if it were indeed liquid fire. Very frequently death ensues within a few hours, much depending upon the amount taken and the promptness with which the requisite antidotes are administered. If the child does not succumb at once it is often left to endure far greater agonies than death, which may extend over a period of weeks, months or even years. Wherever the lye touches it acts as a burning caustic, destroying the skin, mucous membrane lining the mouth, throat and stomach, and indeed, corroding and eating into the deeper tissues. After the inflammatory and ulcerative process runs a certain course of greater or shorter duration as the case may be, accompanied with the most intense suffering, then cicatrization or the healing process begins which results in contracting of the muscular fibres the same as in a burn or scald, and when we think of the locality injured we can realize how terrible are the results, the oesophagus or tube through which the food passes from the mouth to the stomach undergoes the contracting process, sometimes to so great an extent as to become entirely closed. No food, not even milk can pass through the natural channel to where it can be assimilated for the nutrition and maintenance of life, hence the child dies gradually from inanition or starvation. In some cases life may be prolonged by nutritive enemata—injections of milk, beef-tea, rich soups, etc., given by the rectum. This treatment is very good in any case where the digestive processes have become impaired from any

cause. Life has been maintained for a length of time in such cases by every day forcing a small stomach tube through the oesophagus and introducing the food in this manner, but this is a very painful and distressing process—a severe ordeal for the sufferer.

In a remarkable instance recently published by a leading medical journal, an artificial opening was made from the outside into the stomach and a tube kept in the opening; nature healed the wound around the tube, and the child made a good recovery but will always have to take food in this novel manner. But the question naturally arises in our minds, what can be done to mitigate and in some manner prevent these direful consequences. Some agent must be given, and that speedily, that will produce a chemical change, that will render the lye inert until it can be eliminated from the system. Hence large draughts of olive oil should be given, not a tablespoonful or two, but give it by the pint as much as the patient can be induced to drink, after which administer an emetic, one of the mechanical variety, of which mustard and warm water is best. After the contents of the stomach are ejected, soothing and demulcent drinks should be given, such as slippery elm powder mixed in cold water and drunk immediately, sweet milk and raw eggs, in fact anything that has a tendency to soothe and heal the irritated surface. This treatment will prove beneficial in all cases of poisoning from corrosive substances, such as the stronger alkalies and acids and corrosive sublimate.

Our professor of chemistry, the late Rachael L. Bodley, used to relate an anecdote of the learned chemist

Louvoisier, which, while demonstrating his wonderful coolness also indicates the efficacy of the antidote for corrosive sublimate. While lecturing to his class with a numerous array of test tubes, beakers glasses, etc., before him, in the heat of his interest he drank from a glass which he supposed was water, until he had tasted and found it to be that deadly poison, corrosive sublimate. He very coolly put the glass down and said: "Gentlemen I am poisoned, bring me some eggs." I have often thought that perhaps if he had been less sure of the potency of the antidote he might not have been so calm and self-possessed.

Acatate or sugar of lead is quite a common domestic remedy, and while it is a fine local application for many inflammatory troubles, if taken internally it very soon destroys life. Remember that sulphate of magnesia or epsom salt given in full large doses is a speedy and effective remedy.

Poisoning by strychnine is not an uncommon occurrence, as it is so often used about the house to kill mice, rats, etc. For this purpose it is usually spread upon bread and butter or cheese and laid around the cupboard and perhaps is carelessly forgotten. Sometimes the appetite of children is so acute they can eat even a crust of bread off the floor, one taste is sufficient to destroy life—they rarely take more because of the very bitter taste of the drug. This poison acts very rapidly, the symptoms coming on within fifteen or twenty minutes, which are characterized by violent jerking and twitching of the muscles, the contraction of the extensor muscles being so great as to cause what is known as opisthotomous, a bending

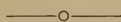
backward of the body to that extent that the head and heels will touch each other. Very severe convulsions soon follow, continuing at intervals until death results. The eyes are stretched wide open, fixed and staring. Consciousness is usually preserved to the last. But what is of the greatest interest and importance to us is the treatment to be employed in these truly alarming cases. The first thing is to give a chemical antidote to produce an insoluble substance in the stomach, the best is tannin acid or iodine, very strong, green tea could be given until the tannin was procured, or strong decoction of oak bark, as these articles contain much tannin. These remedies should be followed promptly with a quick emetic, such as mustard, a heaping teaspoonful to a glass of warm water, or sulphate of zinc. To counteract the poison that may be absorbed into the system, tobacco or aconite are useful but care must be taken not to cause poisoning with these substances. Bromide of potassium in large doses is considered the safest and most efficacious remedy. Chloral hydrate may be given with it. Chloroform by inhalation is also very useful in relaxing the spasm. Energetic rubbing of the limbs and body and artificial respiration are an indispensable part of the treatment in strychnine poisoning.

Arsenic is used in a number of diseased conditions in small doses, and may cause toxic effects by being gradually absorbed into the system. Or the effects may be produced suddenly by a single large dose. The fatal dose of arsenic varies, the smallest fatal dose reported is two grains, while immense doses have been taken without death result-

ing. Large doses usually cause vomiting, which obviates the necessity of an emetic. Often the would-be suicides abort their own objects by taking too large doses. If free emesis does not occur give mustard with large draughts of warm water, also an abundance of warm water with salt to wash out the stomach. The physiological antidote that produces an insoluble compound in the stomach is tinct. of the chloride of iron and the bi-carbonate of soda mixed with warm water. These remedies will usually be found in every household, and should be given in abundance, the mixture is perfectly harmless, and it takes large quantities to neutralize the arsenic. It should always be *freshly prepared*. After the emetic has acted and while giving the antidote, large doses of castor oil should be administered to remove the poison from the bowels. The patient should also be treated upon general principles as in all cases of poisoning, rubbing, external applications of heat, stimulants to resuscitate, such as brandy, by the mouth if it can be taken, if not, give hypodermically or by the rectum by injection, and as arsenic is very irritating to the alimentary tract give soothing, demulcent drinks. If there is a suppression of urine give large quantities of water containing sweet spirits of nitre.

In this case as in all others the *symptoms must be treated* as they arise, and remember that promptness in giving the best and nearest remedy at hand will often save life when the few moments lost in waiting for what may be deemed a more efficient remedy will jeopardize the life we are so anxious to save. Presence of mind, energetic work and judicious execu-

tion is what is required in all cases of poisoning, whatever may be the cause.



A WORD FOR ICE-WATER, TOO.

SIR.—Your kind remarks entitled “A Plea for Indigestible Food,” encourage me to add a work in regard to drinks. My morning paper contains a prominent review of a popular book, entitled “The Relation of Alimentation and Disease.” The author of the book is described as the “inventor of hot water as a beverage in medicine.” The review attributes great injury to the use of ice-water, and a corresponding benefit to be derived from the systematic drink of hot water during months and years.

In the face of such assertions it is a curious fact that Dr. Dujardin-Beaumez, when desiring a specimen of gastric juice, first gives to the patient a half-glass of cold water. The habit of drinking ice-water before meals is so widely deprecated that it will perhaps be a gratification to some of us to be able to defend it by this eminent example. Cold water apparently stimulates gastric secretion. It does this most probably by dilating the smaller arteries so as to increase the supply of blood. Cold water applied to the skin causes a temporary pallor, rapidly succeeded by flushing and warmth. The dilatation thus obtained is not temporary, but persists for a considerable time. Heat, on the contrary, when applied to the skin, reddens the part temporarily, but finally produces pallor and anæmia. Hot water is better than cold water for the control of hemorrhage, because it produces a final and more lasting con-

traction of the arteries of the part. Brugio, an Italian, recently observing the brain through the trepanned skull, has found that cold baths produce anæmia, while hot baths produce hyperæmia of this organ.

There is no reason to suppose that heat acts differently upon the mucous membrane of the stomach than it does upon the mucous membrane of the uterus or upon the skin. A hot drink will flush the face as a cold drink never does. The writer has known plethoric people who were obliged to abstain from hot drinks entirely on account of this flushing, and the headache and discomfort which accompanied it. Apoplectic subjects are directed to avoid hot drinks. On the other hand, we administer hot drinks to the patient in a chill because “they drive the blood to the skin,” and old-fashioned mothers give hot teas in the eruptive fevers because “they keep the rash out.” These instances all point to contraction in the vessels douched by the hot fluid. Pallor of the mucous membrane of the digestive tract undoubtedly follows the use of hot drinks. Hot water sometimes cures dyspepsia, for the reason that in catarrh of the stomach, as in other inflammations, we have unnaturally dilated vessels and sluggish circulation, or even stagnation, of the blood. Contraction is here, as in hyperæmia elsewhere, the first step toward cure. By contraction of the smaller arteries we get a pushing onward of the stagnant venous blood and, in consequence, room for a fresh supply. In catarrh of the stomach, therefore, hot drinks may favor secretion and the better digestion of food.

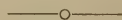
In the primitve state, however, hot

drinks were of course unknown. The animals, in winter, drink from a hole in the ice, and children do not care for hot drinks until they have been taught to use them.

A conclusion to be drawn is, not to introduce children to this practice of a retrograde civilization too early. The child's digestion is not benefitted by hot drinks so long as he is in a normal state. Another conclusion is, not to smile superciliously upon your friend because he thinks a half-glass of ice-water before eating gives him a relish for his food. A third conclusion relates to milk diet. Where milk cannot be taken because it coagulates in lumps, try giving it lukewarm or hot. Ice-cold milk provokes secretion just as ice-cold water does, and this sudden outpouring of the gastric juice coagulates the whole quantity in a mass. By giving the milk hot, on the contrary, secretion is delayed, coagulation occurs more slowly, and a flaky curd is the result. Many people who cannot take cold milk with any comfort, can take hot milk, or milk as it comes from the cow, in large amounts. A fourth conclusion refers to the hot water. While the douching of the digestive tract with hot water, may be beneficial for a time, if persisted in after the normal circulatory equilibrium has been reached, it will invariably do harm and may, it is said, even set up a condition of anæmia and atrophy of the stomach—a condition far more serious than the hyperæmia it was intended to combat. It should therefore not be continued for months nor for years, as the popular author before referred to has recommended. As a remedy hot water is not harmless, and its ad-

ministration should be controlled by the physician's directions just as certainly as the use of drugs.

A last conclusion refers to cerebral hyperæmia. In the condition of flushed face and mental confusion which sometime results from worry or overwork, try an ice-cream if it can be digested. If not, try a water-ice, or even a half-glass of the despised ice water. The tranquilizing effect of the cold drink has not yet perhaps received its due share of attention. The possible agency of the hot drink in the production of "American nervousness" is also suggested. It is perhaps, a significant fact that in the countries with which we are oftenest in this respect compared, chilled wines or malt liquors are more commonly employed. On the other hand, the reviving effect of hot water and other hot drinks in conditions of cerebral anæmia cannot be denied. Any dictum which unqualifyingly says that cold drinks are good, and hot drinks are bad, or that hot drinks are good and cold drinks are bad, must be absurd. Both are good in their place. In the opinion of the writer, however, the cold drink is a physiological requirement, while the hot drink has its place in the treatment of pathological conditions alone.—*Sarah E. Post, M. D., in Medical Record.*



First female passenger in Glasgow car: I wunner whit's the meanin' o' this terrible word Jubilee?

Second do: I'll tell ye. Whin a woman's merrit twenty-five years that's her silver waddin, when she's merrit fifty years that's her golden waddin, and when her man dees that's her jubilee!

PROPHYLAXIS IN SCARLATINA.

Bäumler (*Munch. med. Wochenschr.*, 1888, No. 42, 703,) gives some statistics showing the high rate of mortality from scarlet-fever, and reviews the complications which may occur. Prominent among these is albuminuria, to which he calls especial attention. A careful distinction is to be drawn between the albuminuria frequently occurring early in the disease, accompanying high fever, and lasting but a few days, and that developing at the third or fourth week, which is often very persistent and may be attended by all the evidences of a severe nephritis, though the amount of albumin be small in amount. Regarding the prophylaxis against the scarlatina, the two questions arise—whether this is possible, and whether it is necessary. Though this disease is so much more dangerous than measles, the disposition to get it is very much less. Only in a few of the early years of childhood is there a really considerable tendency to catch it from others, and this rapidly grows less with advancing age. An important point, therefore, is that the longer the child can be protected from the disease, the greater is the likelihood that it will escape it entirely.

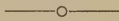
As is well known, the contagium of scarlatina is always derived from some other case; it possesses a very great vitality; it is active from the earliest beginning of the disease until far into convalescence; and it usually requires a very short period for its incubation. The author reports cases to show that the breath may carry the contagion before the appearance of any eruption, though the chief danger

is during the stage of desquamation. It is therefore absolutely necessary to isolate patients as soon as possible. The clothes can be disinfected, but it is virtually impossible to disinfect the epithelial covering. A fixed time during which the patient must be isolated cannot, therefore, be named, but the child must remain away from others until the shedding of the epithelium, especially that of the palms and soles, is entirely completed. The author has known this to require sixty-three days from the onset of the disease, and a still larger number has been reported by others. Desquamation can perhaps be hastened by bathing with warm soap-water, and the dissemination of scales hindered by inunctions. It is very important that the scalp be treated in this way, as the scales of this part are fine and are shed early. A convalescent room is of especial value for those patients who feel well, but who cannot with safety mingle with others.

Children who have come in contact with cases of scarlatina should remain under observation ten or twelve days before again joining other children. Those in attendance upon the patients should wear some outside garment in the sick-room, and change their clothes and wash their hands in carbolic water on leaving it. The sick room should be thoroughly aired every day, with proper precautions that the patient take no cold. All the linen used about the patient is, while still in the sick room, to be put in a three per cent. carbolic acid solution, and then boil with a strong soap. Shoes are to be disinfected with the carbolic water, and clothes treated with steam. The walls of the sick room, if painted

or papered, are to be rubbed down with bread after the patient has been removed, the iron and wooden furniture and the floors washed with a carbolic solution, and the curtains, mattresses, etc., subjected to steam. Special vehicles should be employed to bring children with scarlatina to hospitals. Finally, precaution should be observed against the carying of the disease by third persons, domestic animals, books, letters, milk, etc.

In connection with the above, a communication of A. Whitlegge (*Lancet*, January 5th, 1889) is of interest. It seems to him probable that a lull in the infectiousness of the disease may occur about the end of the first week, at the time when the acute symptoms are subsiding and desquamation has hardly commenced. To determine this point, he analyzed 1700 cases, of which he had exact particulars, and found, in fact, that the infectiousness suddenly decreased at about the sixth day, and increased again about the twelfth day, reaching its maximum by the sixteenth day.—*American Journal of Medical Science*.



MEDICAL INSTINCT.

Animals get rid of their parasites by using dust, mud, clay, etc. Those suffering from fever restrict their diet, keep quiet, seek dark, airy places, drink water, and sometimes plunge into it. When a dog has lost his appetite it eats that species of grass known as dog's grass, which acts as an emetic and purgative. Cats also eat grass. Sheep and cows, when ill, also seek out certain herbs. An animal

suffering from chronic rheumatism always keeps, as far as possible, in the sun. The warrior ants have regularly-organized ambulances. Latrelle cut the antennæ of an ant, and other ants came and covered the wounded part with a transparent fluid secreted in their little mouths.

If a chimpanzee is wounded, it stops the bleeding by placing its hand on the wound, and dressing it with leaves or grass. When an animal has a wounded leg or arm hanging on, it completes the amputation with its teeth. A dog, on being stung on the muzzle by a viper, was observed to plunge its head repeatedly for several days in running water. The animal eventually recovered.

A sporting dog was run over by a carriage. During three weeks in winter it remained lying in a brook, where its food was taken to it. The animal recovered. A terrier hurt its right eye. It remained under a counter, avoided heat and light, although it habitually kept close to the fire. It adopted a general treatment, rest and abstinence from food. The local treatment consisted in licking the upper surface of the paw, which it applied to the wounded eye; again licking the paw when it became dry.

Animals suffering from rheumatic fever treat themselves by the continued application of cold water, which M. Delauney considers to be more certain than any of the other methods. In view of these interesting facts we are, he thinks, forced to admit that hygiene and therapeutics, as produced by animals, may, in the interest of psychology, be studied with advantage.

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THE CARE OF THE SICK.—IV.

BY THE EDITOR.

The internal and external uses of water in the care of the sick are subjects of the utmost importance. Water is an agent of the greatest value, if used wisely, in the sick room; on the other hand, it may become most detrimental if improperly applied. Hydrotherapy occupies a prominent position among remedial agents. While not undertaking to make a "cure-all" of water, we desire to present some items concerning its application that will be useful and should be understood by those having the care of the sick.

Water may be freed from its organic and inorganic impurities by distillation. For the internal use of water it is desirable to have it as pure as possible. Simply boiling, where impurities are suspected, will be found to be an excellent precaution. Nothing could scarcely be more unfortunate than to give the sick man water to drink that is charged with disease germs while the poor man is already prostrated by the attack of these microbes, and the drinking of such water reinforces the elements of disease from which he is already suffering. Water readily absorbs the impurities of the atmosphere that surround it. From our bodies are constantly escaping, by the breath and through the skin, obnoxious gases that poison the air; if the water is in contact with this air it is absorbing these poisonous elements.

On this account water should not be drunk that has been exposed for any length of time in the glass or pitcher that has been standing in the sick room. Particularly should it be fresh drawn, rather than use water that has been standing, because in sickness the body is throwing off the diseased elements in addition to the usual waste which vitiates the atmosphere, that in turn impregnates the water, for by so doing you give back into the system the poisons it has striven so hard to throw off. So frequently is it the case that the nurse sitting up with the patient through the long night towards morning gives the patient a drink from the glass that has been by the bedside for hours rather than go out into the dark or to another part of the house for a fresh supply. Perhaps it is milk—milk is more susceptible of contamination than water. For these reasons the drinks and the prepared dishes of nourishment should not be kept by the bedside nor in the room where the sick are.

In order that we may more fully understand the use of water in sickness, it is better that we should know something of the effects or physiological action of water. Water is one of the essential constituents of the various parts or tissues of the body. The excretory organs are throwing off the waste or ashes produced by the combustion that takes place in the process of the living organism. The blood

must be kept in its fluid state by a constant supply of water, replenished to meet the loss that occurs by the breath or lungs, skin and kidneys. If the blood becomes thick and sluggish the circulation cannot do the work necessary to sustain life. While taken in proper quantities and intervals, water is so necessary to the living processes; yet great damage may be done to the corpuscles of the blood by drinking often and in large quantities. This is one of the great injuries that occurs with the beer drinker who imbibes his beer in excess. Large quantities of solids and fluids taken into the stomach causes, among other difficulties, dilatation. A dilated stomach cannot properly do its work. In sickness these results are more serious, for upon the labors of the digestive track to furnish a healthy supply of blood in connection with the excretory organs that discharge the diseased elements, the process of repair takes place, or the patient gets well. The presence in the stomach of a certain quantity of water or fluid aliment is favorable to digestion, as the juices of the stomach are strong enough to bear some dilution, but if we carry the dilution too far, we weaken them so much that they are unable to digest the food.

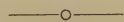
In cases of fevers or protracted sickness attended by fever acidulated drinks are grateful. Lemons are preferable, but any ripe fruit such as berries, cherries or other fruit may have the juice expressed, water added and sweeten to taste. If grapes are in season the freshly expressed juice is most excellent. Sick people in many instances do not get enough fresh ripe fruit in their diet. If the fruit is in

proper condition, if the skin and seeds, those things that would irritate the mucus membrane that lines the digestive track, are removed, there are not many conditions of sickness where the fruit would be objectionable. And as a beverage the fresh juice would be the best form in which to administer it.

The skin performs an important office in sickness, by discharging through the pores diseased and waste elements. The liberal use of water internally promotes the cutaneous transpiration or sweating and keeps the skin in better condition.

The proper action of the bowels at all times so necessary to health, becomes very essential in sickness. Water has a splendid effect to promote a healthy action. Obstinate cases of habitual constipation have been cured by taking a glass of water regularly upon rising in the morning before breakfast.

There is a prevalent prejudice in domestic practice against the use of cold water as a drink in cases of confinement. It is thought the patient must be drenched with hot tea; this is a grand mistake. Let the woman make free use of cold water before and continue it right along after she "goes to bed," and she will find it a decided improvement over the tea. I am aware that "grandmother" may say we are "crazy," but it's a fact nevertheless.



"WHAT book has helped you most in life?" I asked my friend as home we took our way, one day, and he replied, "My pocketbook."

BRAIN EXHAUSTION.

BY N. H. BEEMER, M. B.,

First Assistant Physician, Asylum for the
Insane, London, Ontario.

During the past ten years the question of the changes which take place in the physical structures concurrently with intellectual action has given me much serious thought, and until the last few months this question has been involved in such uncertainty that there was very little satisfaction in contemplating it. Various eminent authors have written on this subject under various names, such as nervous asthenia, nervous exhaustion, neurasthenia, nervous weakness, American nervousness, cerebral hyperæmia, etc., and while all these terms are appropriate, I prefer to follow Dr. J. Leonard Corning, and shall employ the simple term, brain exhaustion.

According to a novel computation by a German histologist, who has been calculating the aggregate cell forces of the human brain, the cerebral mass of average size is composed of three hundred millions of nerve-cells, each being an independent body so far as its vital relations are concerned, and living a separate life individually, but subordinated to a higher purpose in relation to the function of the whole organ. In order to gain a lucid understanding of our subject, we must fix clearly in our minds the idea that one or more of these brain-cells is called upon to do work whenever there is any intellectual action; and we must also bear in mind that every cell, like every muscle, has a certain limit to its capacity for work. While we sometimes forget the fact, still we all know that the blood-stream is the repository

of vital energy, and we must also admit that from this source each organ, with an elective faculty peculiar to itself, selects only such elemental combinations as it requires for the evolution of its own vital forces. Each vital organ of the body must necessarily use up, in the performance of its functions, the equivalent of a certain amount of assimilated nourishment; and if we may, for the sake of argument, regard the whole muscular system of man as one vital organ, we may then say that in the case of the working-man—the day-laborer—this organ, meaning his muscular organization, uses up the equivalent of more nutriment than any other of his vital organs. But this demand for muscular nourishment does not take place in the brain-worker, whose muscular system is comparatively inactive. In his case it is rather the brain that takes from the blood the greatest amount of those nutritive elemental combinations suited to its need, and represented by a large amount of the food ingested. It has long been understood that in the performance of brain work there was some kind of molecular action going on within that organ, but the exact nature of it is the point that has been so perplexing, and the want of some rational theory has been the reason for so much vague speculation. Whether right or wrong, Dr. Corning, of New York, in his recent work, has set forth a very common-sense explanation of what really takes place. He regards the molecular action as one of contraction of the brain-cells, in a way similar to that of the contraction of the muscle cells in muscular work. A given cell, or set of cells, may, if well and regularly supplied

with nourishment, contract and expand to the least perceptible extent in the evolution of brain force, for several hours in succession, without any special damage; yet if the work is continued beyond the inherent strength of the nerve-cell, exhaustion must be experienced by the cell, just the same as when a given set of muscles is exercised beyond the limit of their endurance. Continued use of one set of muscles will soon determine an increased amount of blood supply, so that the waste may be repaired, and the same thing takes place when one set of cells is long exercised in the brain. Vigorous and continued mental exercise will soon call an increased supply of blood to the brain to repair the waste which is taking place there. If this increased supply of blood to the brain should be demanded by the overworked organ for any great length of time, the vessels themselves will not at once return to their normal size upon cessation of the work, but will at least temporarily remain enlarged, and thus it is that we have the cerebral hyperæmia which Dr. Hammond has written about, and which he was inclined to regard as the essential pathological condition of brain exhaustion. Prolonged intellectual work will noticeably elevate the cerebral temperature, and this elevated temperature is accompanied by a more or less hyperæmic condition of the vessels; if the hyperæmia be only of a few hours' duration, it is merely physiological, but when it remains for days together it becomes pathological. But voluntary thought is not the only thing that proves exhausting to the brain; indeed, a considerable degree of intellectual action is what makes the brain strong

and vigorous; but it is the hurry and worry that seem to take away from the brain-cells their store of strength so rapidly. To understand how it is that hurry in intellectual work tires so much, let us go to physical work for an illustration. If a man walk a mile leisurely, he will only feel a healthy glow as the result of the moderately rapid expenditure of physical force; but let him run only half a mile at the top of his speed, and he will feel so fatigued that he can hardly speak or breathe, and still he has only covered half the distance, but in a shorter time. So, likewise, if a man engage at a moderate rate in mental labor for an hour or two, he will feel well and fresh and the better for it; but if he work for only half an hour at the highest intellectual pressure, he will find himself fagged out and exhausted. The very rapid contraction of the brain-cells is not their normal way of working, and they soon exhaust the elements which are stored up within themselves, and failing the supply from the bloodstream, which can only take place slowly, they are left on the verge of bankruptcy. Worry operates differently by reason of its continuousness; the contractions may not be rapid, unless as in the case of a man receiving some appalling news, but the contractions are continued at every intermission from other intellectual work. The rest, which in another man will follow the completion of his daily mental work, will not come to the man who is worried, for as soon as the brain is done with the daily work, the worry begins and allows no rest to the brain-cells.

If these brain-cells should be weak-

ened or exhausted by too prolonged intellectual work, they become less capable of resisting the onset of worry, which they might more successfully do if strong and rested." We all know that when tired out mentally trivial things will worry us, which would be passed over almost without a thought when we are fresh and strong; that which seems to us of slight importance in the morning will grow to mammoth proportions of seriousness by evening time. If those tired-out brain-cells come under the influence of worry, and are thus stimulated to further contractions, when they should be resting and receiving a store of nourishment for the morrow's work, it does not seem surprising that they are unfitted for their work when the morrow comes. Now, so long as the output of vital force by any single organ does not differ too greatly from that required by the remaining tissues of the body, all will be found to go well; but when one organ is called upon for too long a period to exercise its function, we shall observe two phenomena. In the first place, those elements of the blood required for the maintenance of the function of this particular organ will become more or less completely exhausted; and, in the second place the organ will borrow those needed elements from any other organs that contain them. Relative to the first of these phenomena Dr. Maudsley says: "Poverty and vitiation of blood may certainly play a weighty part in producing mental disease, as they do in producing other nervous disorders. Lower the supply of blood to the brain below a certain level, and the power of thinking is abolished; the brain will then no more do mental

work than a water-wheel will move the machinery of the mill when the water is lowered so as not to touch it." And so, likewise, if we impoverish the blood by abstracting its building elements, or if we vitiate it by the addition of noxious elements, we make it an unhealthy medium for the supply of that help which the brain requires to do healthy work. In reference to the second of these phenomena—the borrowing of needed elements from other organs—we may find some of the best illustrations of this kind of plundering in those individuals who are inordinate brain-workers. It happens not infrequently in such persons that the fatty, and also the muscular, tissues are reduced to a surprising degree, so much so, in fact, that the individual will exhibit a considerable amount of emaciation. He will observe his own poorly nourished condition, and will commonly fall into the error that forced physical exercise is what he requires, whereas his real want is physical as well as mental rest.

Only a few weeks ago I was talking with a young man in this city on the subject of recreation. Knowing that he was an earnest and hard-working student, I was somewhat curious to learn what he did in the way of physical exercise. He said: "Well, doctor, I don't suppose I am doing what is right; for although I take no physical exercise, I feel too tired when I reach home from the office in the evening to engage in anything of that kind." Now this young gentleman is a graduate in Arts of Toronto University, and he spends his time during the day in the work of a law office, and his evenings in preparing himself for the examinations of the Law

Society; and he, in these ways, expends every day all the nervous energy which his food supplies, and if he were to take forced physical exercise to any considerable extent, he would injure rather than benefit himself. But there is another way in which some of this emaciation of brain-workers may be accounted for. I refer to the malassimilation incident upon deficient nervous supply to the stomach. When the brain is tired out, and a large meal is taken into the stomach, it is impossible that sufficient nervous influence shall be conducted to the stomach for the perfect digestion of the meal, and hence we commonly find that when this practice has become a habit, the patient will suffer from all that train of evils resulting from indigestion. Many men and women are thus treating themselves for a tired stomach where the primary cause is an overwrought brain. To further illustrate the exhausting effect of purely intellectual action, I will mention a few typical cases.

A previously healthy and robust young man, who was teller in a bank in this city, and through whose hands a large amount of money passed daily, told me that while he simply attended to the work of the bank he could do it with a self-conscious feeling of ease and accuracy. He saw, however, an opportunity of improving his business relations by a knowledge of short-hand, and he accordingly set himself to work in earnest to learn it. After tea every evening he would spend three or four hours in close study upon this subject. All went well for a fortnight, but at the end of a month he began to suffer from headaches and a sense of mental confusion, and he

lived in daily dread of making a mistake in his cash. In six weeks the misfortune which he feared overtook him, and his error cost him several months' salary. Easier work in another department of the bank, where there was less continuous mental strain, together with fewer hours' work at short-hand in the evening, served to restore him speedily to his former health and spirits.

One of the most eminent and deservedly popular ministers of the Presbyterian Church in Canada today works so hard with his brain, while delivering his regular weekly discourse to his congregation, that his flannels and linen are saturated with perspiration, and have regularly to be changed after leaving his desk; and he is not one of these men, either, who pound the book and saw the air with their hands. The result of this prodigal expenditure of nervous force is that every year his general health becomes so enfeebled that he is forced to take a long vacation, and every few years he has to take a transatlantic trip.

Ex-president Arthur, a few weeks before he left the White House, said to a friend: "I think I am an unusually strong man, yet after I have been receiving visitors for two hours I am as limp and as deficient of muscular strength as that rag. They strip me of all my nervous force."

In Mr. Dolby's book on "Dickens as a Lecturer," he confirms the opinion that Dickens brought on his death by overwork and excitement. He says that the reading of the murder scene in "Oliver Twist," by Dickens, would bring the reader's pulse up from 72 to 118, and that on these occasions he would have to be supported to his re-

tiring-room and laid on a sofa for fully ten minutes before he could speak a rational or consecutive sentence.

Shelley, who was poorly while writing "The Cenci," said he believed that the mental labor connected with its production proved a fine antidote to the nervous sedatives which he was taking at the time, and that the mental excitement "kindled the pain in his side as sticks do a fire."

When Wordsworth was engaged in composing the "White Doe of Rylstone," he received a wound in his foot, and he observed that the continuation of the literary labor increased the irritation and pain of the wound; whereas by suspending his work he could relieve himself of these unpleasant symptoms, and absolute mental rest was finally requisite to his perfect cure.

Southey perpetrated industrial suicide by his incessant study and mental labor. A biographer says of him: "His busy brain wore itself out, and the workman could but wander, without purpose and without power, among the books which he had gathered with patient love around the walls of his writing-room."

And we all know, if we will only stop to look at the question in the right light, that the lives of such men as the late Lord Lytton, Earl Beaconsfield, and Thomas Carlyle, furnish ample evidence of intense mental and physical sufferings which were the direct outcome of mental over-work.

From what has already been said, it may be readily inferred that certain classes of society will be especially subject to brain exhaustion, and while no classification is strictly accurate, I think the majority of cases

may be classed among one of the following: 1st, Persons engaged in science, art, or literature; 2d, those engaged in politics; 3d, those in commerce, exchange, and speculation; 4th, those who are too laborious among students and scholars; 5th, mothers with small children and a large share of domestic care.

We shall now have to pass rapidly on to the clinical history, and we shall find that the chief symptoms of brain exhaustion may be classed, for the sake of convenience, into psychical and physical. Under the head of psychical we shall find restlessness during the day, and more or less wakefulness during the night. This restlessness is peculiar in itself, and if long continued we call the individual fidgety and fussy, as he will make a great bustle over nothing, or next to nothing, and besides this he is never satisfied with the work in hand. This restlessness is also accompanied by intense and excessive irritability; the patient will imagine himself imposed upon when such is not the case, and he will fancy himself slighted when nothing of the kind is intended; he will conjure up some fancied wrong, and attach the cause of it to the first one who comes in his way, just as often his friend as his casual acquaintance. He will also magnify the slightest oversight into a grave offence, and for the moment it will overpower all other considerations of the mind. "This extreme irritability is one of the most characteristic features of the disease, and is absolutely beyond the control of the patient; the paroxysms of anger may be extremely brief in their duration, or may continue for several hours. During their continu-

ance the subject manifests a morose and sullen attitude toward all with whom he may be thrown in contact. Sometimes he is revengeful, and concocts extravagant and fantastic plots against those who are supposed to be inimical to him. At others he is lachrymose, and disposed to look upon himself as a martyr—as one misunderstood by his fellow-mortals.”* The sleeplessness at night is accompanied by a series of unfriendly and harassing thoughts passing rapidly, and sometimes unconnectedly, through the mind, and is followed naturally enough by a state of drowsiness for half the next day; and when the sleep does come it is generally disturbed by horrible and wearisome dreams.

The faculty of registering impressions is often materially deranged; sometimes names of familiar places, persons and objects are temporarily forgotten, and the utmost effort fails to recall them. The will often exhibits a marked impairment, and daily duties are performed in a cursory and indifferent manner, in spite of an earnest desire to do them well. Mental confusion, somewhat resembling that semi-consciousness preceding sleep in the healthy person, is frequently experienced. There is also a morbid curtailment of the power of mental concentration. I do not here refer to absent-mindedness, for there the mind is engrossed with some other subject; but rather a mental state in which the patient finds it impossible to devote himself continuously and vigorously

to any given subject. This lack of mental concentration is particularly characteristic of brain exhaustion, and the medical observer will find this true in conversation with his patient.

Among the more prominent physical symptoms in brain exhaustion is pain in the region of the vertex and superciliary arches, and also at the back of the neck; and in different patients entirely different forms of mental occupation will excite the pain. In one man, reading for a few minutes will not only be followed by the pain, but also by a sense of exhaustion; in another writing for a short time will produce these symptoms; and in still another, continued conversation on any question requiring much attention will be followed by like results. Photophobia is common in this class of patients, and reading by gas-light is especially painful to the eyes, so that colored and other glasses are often called into use. The sensibility to certain sounds is sometimes abnormally developed, so that the squeaking of a door, or the rumbling of a cart, or the sound of certain musical instruments may prove intolerable. The skin of the face bears a pallid and unhealthy appearance, and the eyes lack that lustre which belongs to the healthy and well-rested brain; altogether the expression of the countenance can only be described by the term aged.

Derangements of the function of the stomach play a prominent part in prolonging and aggravating brain exhaustion, and I am satisfied that in many cases the brain is primarily at fault where the blame has been laid upon the stomach. In order that a good meal, say at mid-day, may be properly digested, the stomach must

* Brain Exhaustion, with some Preliminary Considerations on Cerebral Dynamics. By J. Leonard Corning, M. D. New York: D. Appleton & Co. 1884.

have sufficient nervous force sent to it; but it often happens that the nervous system has already been overworked in the morning, and should have rest before taking up a new load; the man, however, hurries from his office or store to the restaurant, where he will either continue the business of the morning in his own mind, or lay out plans for the afternoon's work. In this way he will expect his brain to continue its work at a high pressure, and he will also impose upon it the additional burden of sending sufficient nervous influence to his stomach to digest a full meal, perhaps imperfectly masticated. A locomotive is caused to stop occasionally to take on fuel and water, but man is not as good as that to his own brain. Is it any wonder, then, that after a while the stomach, which is at the same moment both starved and overloaded, should rebel? And when it does rebel, we can easily see that the condition of the brain is made infinitely worse, for then the supply of nutriment to the brain is largely cut off. The cry of the stomach in its distress is likely to direct the attention of the patient, and sometimes that of the practitioner as well, to that organ, and the character and quantity of the food is then so regulated that the poorly nourished brain is still further impoverished; and the stomach itself is not relieved till the patient is sent away for a trip where he really escapes the mental work and worry of his daily duties at home.

The symptoms of indigestion are, in many respects, so similar to those of brain exhaustion, that anyone may be easily forgiven for confounding the two conditions, especially as

those of exhaustion are so soon followed by those of indigestion.

There is almost always some cardiac disturbance, and this is sometimes one of the earliest symptoms to excite the apprehension of the patient. Emotional excitement, even if only slight, will cause the most distressing palpitation, and change of posture, as from sitting to standing, will greatly increase the number of pulsations. This tumultuous action of the heart often gives the patient much real concern, but the stethoscope reveals the absence of any organic lesion.

The kidneys are more or less affected, and the urine is sometimes scanty, and at other times greatly in excess of the normal quantity and limpid; the phosphates are generally found in abundance in the urine of exhausted brain-workers. We know that cerebral irritation may produce diabetes, and we know that emotional excitation and worry will produce a sudden and temporary polyuria; but, so far as I have been able to ascertain, very little is known of the effect of brain exhaustion upon the kidneys.

While emaciation of the muscular structure is the common condition, it is by no means constant; the physical inactivity which an exhausted brain sometimes enforces upon the muscular system may prevent the oxidization of the fat-globules which have been previously stored away, and we thus have the apparently anomalous condition of a fat man with exhausted brain-cells. Those cases where very little emaciation has taken place are, I believe, the most difficult for satisfactory treatment; but in them, like all other cases, there is a perfect intolerance for exercise—anything like a long walk is

regarded by the patient as a species of cruelty.

And now we come to the question of treatment, and I approach it with a certain amount of trepidation, because of our natural tendency to pay slight regard to what is simple, and to attach much importance to what is complex. Our veteran teacher in medicine, Dr. Austin Flint, said, in his address to the New York State Medical Association, a few months ago, that fame would attend that author who would write a work on the non-medicinal treatment of diseases. A few weeks afterward an eminent Canadian author said he believed that the erection and endowment of a thoroughly equipped hospital where medicines should never be used, unless an occasional anæsthetic, would be of the greatest possible benefit to mankind and to the science of medicine. I think, gentlemen, after we carefully consider it, that you will all agree that the spirit of these observations is especially applicable to the treatment of brain exhaustion.

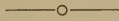
There are three factors of primary importance to brain action, namely, first, the condition of the brain cell; second, the condition of the cerebral blood-stream; third, the physiological relationship between the cell and the blood-stream. In order that the brain-cell shall perform its function properly, it is necessary that intracellular nutrition shall be physiological both in respect to quality and quantity of nutriment. After the cell has exercised its function for a certain length of time, the energy of its contraction gradually diminishes until there is more or less complete suspension of activity. Now, if the blood-stream

were capable of effectually neutralizing the waste which takes place in the cell *during* its functional activity, we should have nervous expenditure on the one hand, with an equal nervous reimbursement on the other, and there would remain no necessity whatever for rest or sleep. As it is, however, during our waking hours waste outstrips supply, and it is only when the mental work, and even consciousness itself, has been temporarily suspended that the blood-stream can supply the deficit. I believe we have here the key to the scientific treatment of this affection. *Rest* by prolonged *sleep*, as recommended by Dr. J. Leonard Corning, is the main point to be observed, and along with it a generous supply of nourishment. Of course, rest also means cessation from mental and physical work, and relief from worry. Sleep means an increased period of unconsciousness daily, not induced by hypnotics. Nourishment means a liberal amount of good food which can be easily assimilated, such, for instance, as rich and carefully prepared soups and beef-tea; and this food should be administered as often perhaps as four or five times daily. Above all, plenty of time must be allowed for recovery, and it is as well to explain this to the patient at the outset. A condition which has been induced by years of overwork cannot be expected to disappear in a week or a month.

Two other facts should be taken into account in this connection. One is that some men's brains are capable of evolving mental force much more rapidly than others, and consequently waste takes place in these cases much more rapidly. The other fact is that

different sets of cells are engaged by different subjects, and hence the rest which is experienced by the student who turns from one subject to another, as, *e. g.*, from mathematics to classics.

Medical Record.



THE IDEAL PHYSICIAN.

Extract from the Address of Dr. Luther Sexton, President of Mississippi State Medical Association, Jackson, Miss.,
April 17th, 1889.

Every ideal physician should be a Christian gentleman. It is no compliment to any profession to be the hot-bed of infidelity and agnosticism. The principles of immortality and the consolations of religion are beyond the reach of the scalpel, but not beyond human experience. Others as learned as we have found consolation in these doctrines, and no one has greater need of such assistance, or a better opportunity to teach to greater advantage the principles inculcated by the meek and lowly Nazarene.

Leaving now those matters to which I have referred, as being in common with the ideal man of every profession, let us direct our attention to that peculiar characteristic which, in my judgment, will be the crowning glory of the ideal physician of the nineteenth century.

Never before, within the history of our profession, have public hygiene and preventive medicine received the absorbing attention of the profession and the laity which they do in our day.

The superstitious expectation of our forefathers of the discovery of a panacea for all ills, a veritable elixir vitæ, has vanished with other myths of the

Dark Ages. And as we grow older and wiser in our profession we realize the fact that the bounds of specific medicine are very restricted. But being thus forced to abandon some of our old routine practice does not leave us empty-handed or with nothing to do.

The want of interest shown by physicians in this branch of medicine has compelled members of other professions to band together into Howard and sanitary associations and boards of health, assuming to a large extent the duties and responsibilities rightfully belonging to our chosen profession.

No one else is so obviously interested in the prevention of disease as the physician himself. This may seem paradoxical to some who will say "that the treatment of disease is the doctor's legitimate business; that is what he is paid to attend to, and it would be suicidal for him to occupy his time trying to prevent the very thing which gives him employment and maintenance."

Dr. Bowditch estimates that in the United States the annual death rate from preventable diseases is 250,000. I think this estimate far too low. But if we estimate the actual value of these lives unnecessary lost at \$750 each, as our political economists do, our figures reach the frightful proportions of \$187,500,000. To these millions of dollars add the vast array of doctors', nurses', and undertakers' bills, the pain and the anguish of the unfortunate patients, the weary night watches and heartaches of friends and relatives, the homeless widows and destitute orphans, and you have not an overdrawn picture of the result of the criminal negligence of the physicians

and citizens of the United States of America.

The painful fact is that we only comprehend or even apprehend these losses when they come as the result of decimating pestilences or in epidemic forms. But day by day, hour by hour, minute by minute, throughout the year, miasmatic or morbid influences are assailing the vitals of the inhabitants of this country, creating an annual loss, as just stated, of all-most, if not quite, \$200,000,000 by sickness and death, which might have been prevented, if physicians and other citizens had done their duty.

Should some sudden calamity come upon our grain or cotton crop, entailing such financial loss, every avenue of intelligence would be crowded with discussions of expedients to retard the waste or prevent the recurrence of such destruction. Nevertheless this waste of human life and energy continues steadily as the sand in the hour-glass, and we hear hardly a word of sanitary warning from those who should be sanitary authorities, and insult our Creator by attributing to His mysterious providence, or to His malevolence, evils due to our filthiness and negligence.

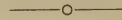
It is a matter for which the profession may justly feel proud that in every emergency there have been men in the profession who, "when weighed in the balance, were not found wanting."

As late as 1888, when that dreaded pestilence "that walketh in the darkness and wasteth at noonday, whose muffled footsteps give no warning of approach, and whose mysterious pathway is traced by the desolation it has wrought," swept like some dreaded

simoon over our beautiful Southland, and brooded like a nightmare over many lovely cities, knights of the profession stood like faithful sentinels on the outpost of duty, with a firmness and devotion unequalled in the annals of history. Some laid down their lives as the cost, in the presence of the dread demon's "courts of death;" others more fortunate were restored again to home and friends, full of honor, without a single blotch upon their bright escutcheons, and their names are sung by the million of voices of every smitten bower and glen, and from every sun-kissed floral vale.

He who can buckle on his sword
To meet the enemy of his land and race,
Content if but their health shall be restored,
To end life's journey on the battle place,
Is worthy of as bright a crown
As history can jewel for his pallid brow,
Is worthy of all honor and renown
The world concedes, and we concede it now.

Sanitarian.



THE LESSON OF A LONG LIFE.

Michel Eugene Chevreul, the distinguished French chemist who died in Paris, April 9th, 1889, at the age of *one hundred and two years, seven months and nine days*, was the child of healthy parents, and appears to have observed and used the means most conducive to old age throughout his long life. He married young, and his conjugal life is said to have been a very happy one, but his wife died twenty-five years ago, leaving but one child, a son, who rose to some distinction and died recently, a retired magistrate.

Chevreul devoted himself to science from his earliest manhood. A cata-

logue, alone, of his public works would be a considerable volume in itself. The two subjects which he above all others did most to develop, are the chemistry of fatty substances, giving the processes of obtaining stearine, glycerine, etc., and the theory of complementary colors; by the application of his methods in the treatment of these subjects alone human industry has been benefited to the amount of many millions.

In an account of him in the *Lancet*, a few years ago, it is said: "He is generally lightly clad, and wears no hat unless under circumstances in which he is obliged to appear in one; indeed, he hardly needs a hat, as he has most luxuriant hair. He is constantly at work, allowing only ten minutes for each of his meals, of which he has but two a day. He breakfasts at seven, the repast consisting of a plate of meat and another of vegetables, which he eats together, the whole being washed down with two tumblers of water. He is said to have never drunk a glass of wine in his life. He dines at seven in the evening, and takes nothing between the two meals except a small loaf at noon, which he eats standing and by the side of his alembics. The writer who relates this states that on a visit to M. Chevreul he found him in the attitude just described, and on expressing his surprise at the frugal manner in which he lived, M. Chevreul observed, 'I am very old' (this was in 1874) 'and I have yet a great deal to do, so I do not wish to lose my time in eating.' In his work he is said to follow a motto that he has chosen from a maxim by Malebranche, and which is regarded by *Nature* as affording a true

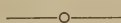
key to his life, his works, and his discoveries: '*Chercher toujours l'infailibilité, sans avoir pr'etention de l'atteindre jamais*' (Always to seek infallibility, without having the pretension of ever reaching it)."

In a sketch of him at a hundred, in the *Popular Science Monthly* (Vol. XXX., p. 37), it is said: "He drinks nothing but water and beer, except that, by the special request of Minister Goblet, he for the first time in his life departed from his abstinence to drink a glass of champagne in response to the sentiment '*Vive la France!*' at his century banquet; and to his temperance, with his robust constitution and his prudent, regular and industrious life, he doubtless owes his survival to so high an age. * * *

"The lesson has been drawn from M. Chevreul's life of what one writer styles 'the physical wholesomeness of sustained labor.' Cases of extreme longevity are usually found either among persons who live in almost complete inactivity of mind, and are thus subject to no wear whatever from their nervous and intellectual faculties, or else among those who spend their lives in constant, vigorous thought. Persons of the class between these, who learn and pursue some business which in time becomes largely a matter of routine, and ceases to call out exertion of the powers, usually die early, or at moderate old age. Hence, the wonderful brightness and activity which we sometimes admire among very old persons is not so wonderful, after all, but is a part of their old age, and one of the causes that have enabled them to enjoy it. And the general rule is sustained in the case of M. Chevreul, as in the case of numerous

other men who have served the world or are serving it at ages far beyond three score years and ten, that the 'harmonious development of all the many-sided aspects of man is the most conducive to the health of the individual, and that the training of the brain may be as valuable as the training of the muscles.'"

Selected.



MEDICINE AS PRACTICED BY ANIMALS.

M. G. Delaunay, in a recent communication to the Biological Society, observed that medicine, as practiced by animals, is thoroughly empiric, but that the same may be said of that practiced by inferior human races, or, in other words, by the majority of human species.

Animals instinctively choose such food as is best suited to them. M. Delaunay maintains that the human race also shows this instinct, and blames medical men for not paying sufficient respect to the likes and dislikes of the patients, which he believes to be a guide that may be depended on. Women are more often hungry than men, and they do not like the same kinds of food; nevertheless, in asylums for aged poor, men and women are put on precisely the same regimen. Infants scarcely weaned are given a diet suitable to adults—meat and wine, which they dislike and which disagree with them. M. Delaunay investigated this question in the different asylums of Paris, and ascertained that children do not like meat before they are about five years of age. People who like salt, vinegar, etc., ought to be allowed to satisfy their

tastes. Lorain always taught that with regard to food, people's likings are the best guide.

A large number of animals wash themselves and bathe, as elephants, stags, birds, and ants. M. Delaunay lays down as a general rule, that there is not any species of animal which voluntarily runs the risk of inhaling emanations arising from their own excrement. Some animals defecate far from their habitations, others bury their excrement, others carry to a distance the excrement of their young. In this respect they show more foresight than man, who retains for years excrement in stationary cesspools, thus originating epidemics.

If we turn our attention to the question of reproduction, we shall see that all mammals suckle their young, keep them clean, wean them in the proper time, and educate them; but these maternal instincts are frequently rudimentary in women of civilized nations. In fact, man may take a lesson in hygiene from the lower animals.

Animals get rid of their parasites by using dust, mud, clay, etc. Those suffering from fever restrict their diet, keep quiet, seek darkness and airy places, drink water, and sometimes even plunge into it. When a dog has lost its appetite, it eats that species of grass known as dog's grass (*chiendent*), which acts as an emetic and purgative. Cats also eat grass. Sheep and cows, when ill, seek out certain herbs. When dogs are constipated they eat fatty substances, such as oil and butter, with avidity, until they are purged. The same thing is observed in horses. An animal suffering from chronic rheumatism always keeps as far as possible in the sun. The warrior ants have

regularly organized ambulances. Latreille cut the antennæ of an ant, and other ants came and covered the wounded part with a transparent fluid secreted from their mouths. If a chimpanzee be wounded, it stops the bleeding by placing its hand on the wound, or dressing it with leaves and grass.

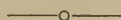
When an animal has a wounded leg or arm hanging on, it completes the amputation by means of its teeth. A dog, on being stung in the muzzle by a viper, was observed to plunge its head repeatedly for several days into running water. This animal eventually recovered. A sporting dog was run over by a carriage. During three weeks in winter it remained lying in a brook, where its food was taken to it; the animal recovered. A terrier dog hurt its right eye; it remained lying under a counter, avoiding light and heat, although habitually he kept close to the fire. It adopted a general treatment—rest and abstinence from food. The local treatment consisted in licking the upper surface of the paw, to which he applied the wounded eye, and again licking the paw when it became dry.

Cats also, when hurt, treat themselves by this simple method of continuous irrigation. M. Delaunay cites the case of a cat which remained for some time lying on the bank of a river; also that of another cat which had the singular fortitude to remain for forty-eight hours under a jet of cold water.

Animals suffering from traumatic fever treat themselves by the continued application of cold, which M. Delaunay considers to be more certain than any of the other methods.

In view of these interesting facts, we are, he thinks, forced to admit

that hygiene and therapeutics, as practiced by animals, may, in the interests of psychology, be studied with advantage. He could go even further, and say that veterinary medicine, and perhaps human medicine, could gather from them some useful indications, precisely because they are prompted by instinct, which are efficacious in the preservation or the restoration of health.—*British Medical Journal*.



PULMONARY CONSUMPTION, AND ONE OF ITS CAUSES.

Pulmonary consumption is more to be feared in every community than any other disease that affects mankind. It is the great placid ocean of mortality, compared to which the occasional epidemics that terrify the public mind are but turbulent inland lakes. Cholera, yellow fever and small-pox, diseases that paralyze with fright entire states, provinces and countries, are exceedingly limited in their results in comparison with the steady, silent and awful slaughter of consumption.

Last year Florida was panic-stricken from the havoc of yellow fever; but during the same year consumption destroyed twice as many lives in the little state of New Hampshire, and not a tremor ran through the body corporate. The average annual death-rate in this country from cholera, yellow-fever, small-pox, typhoid-fever, diphtheria and scarlet-fever, all combined, does not reach the enormous total of deaths from consumption.

It is time that some determined and systematic effort be made to lessen this disease, which the most eminent pathologists and sanitarians now regard as

preventable. Its communicability by contagion and infection has been proven, and its natural history is so well known that much may be done to limit its prevalence.

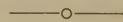
Among the general sources of infection there is one, at least, that should be removed, or, if not wholly removed, greatly lessened by legal action, and that is the sale of tuberculous food products. Such foods, chiefly in the form of tuberculous meat and milk, particularly the latter, are undoubtedly extensively sold to unsuspecting consumers; and that the results are not infrequently lamentable, no sanitarian doubts. Pulmonary consumption is a very prevalent disease among the cattle of this country; and since the general government has taken no measures to restrict the malady, it becomes the duty of the individual states to inaugurate some course that will reduce the danger to the public therefrom.

To illustrate, we will give one instance in this state recently investigated by the Board of Cattle Commissioners: Complaint was made to the board that some disease existed in a herd of thirty cows, in a certain town of the state; and under the assumption that the disease might be pleuro-pneumonia, the government, upon notification, sent a competent veterinary surgeon to inspect the herd. The inspector immediately diagnosed tuberculosis, had an infected cow killed, and the *post-mortem* examination revealed tubercles in nearly every organ of the body, including the udder. The inspector reported that about seventy-five per cent. of the herd was already infected. All, or nearly all the cows were being

milked, and the product being sold daily to a milk dealer for distribution among his customers. The dairyman, ignorant of the character of the disease, was bringing up a baby upon the milk of a single cow in which the disease had advanced nearly to its fatal termination.

This is only one case, but there are many others; and when, as a result, consumption appears in the human subject, the unfortunate victim and the friends accept the edict as wholly unavoidable and perhaps inexplicable. It is time that this great danger be taken in hand by every state, as it can be, with every probability of lessening in a marked degree the annual death-rate of this terribly insidious and fatal disease.

Under our present laws, neither the Board of Cattle Commissioners nor the State Board of Health has any authority to deal with tuberculosis in cattle in a way necessary to restrict its spread among other herds, or to prevent the appalling dangers to which it subjects the human family. The next Legislature should enact a law that will require the Board of Cattle Commissioners to stamp out the disease wherever found by destroying the animals infected, and for which the state should, in some measure at least, reimburse the farmer for his loss.—*Sanitary Volunteer.*



IT IS with narrow-souled people as with narrow-necked bottles—the less they have in them the more noise they make in pouring it out.

IF THERE is any one who should be “rapped in slumber,” it is the man who snores.

Salt Lake Sanitarian

A MONTHLY JOURNAL OF MEDICINE AND SURGERY,

Devoted to the prevention and cure of diseases and injuries, and the promulgation of the laws of health and life.

M. B. SHIPP, M. D., EDITOR.

SALT LAKE CITY, JULY, 1889.

EDITORIAL.

RESTORATION OF THE DROWNED.

At this season of the year when the irrigating ditches surrounding the premises are filled with water and the children are out doors playing, we hear of occasional accidents of drowning. There has been provided for crossing, only a narrow plank across the ditch, and the little one in attempting to get over falls into the water and is drowned. So it happens that such a careless means of crossing costs a life. Again we hear of older people being drowned in the streams or in the small lakes at our pleasure resorts by the upsetting of a boat. When these sad accidents occur, it is very rarely the case that a surgeon or physician is present, and there is not sufficient time to procure one, for if any thing can be done "to bring to life," it must be done immediately; hence the value of some general understanding in the premises by the laity. Persons have been resuscitated after having been submerged in the water four or five minutes, or even a longer time. The water getting into the air-cells of the lungs causes suffocation, and respiration ceases. This being the case what we have to do in the event of an accident by drowning, is to free or

empty the lungs of the water and restore if possible respiration or breathing. As in the case of fire or other threatening catastrophe, people are so apt to "lose their head" (as the surgeon would say) and in their confusion not do anything, or do that which is worthless or worse than nothing.

As before stated, what should be accomplished is to free the lungs of water and get the patient to breathing. The best means we have for the restoration is artificial respiration, as it is called. There are various methods resorted to in cases of drowning, some of which are known as the Sylvester, the Howard and the Michigan methods, which differ but little in their manner of producing artificial respiration. Rough handling should be avoided. Hanging up by the heels to get rid of the water is sometimes resorted to. Such practice should be avoided, as it might produce apoplexy. Rolling on a barrel is also frequently done, although it has ruptured the liver and probably does harm to other internal organs. Such rough practices should give place to more gentle means, which are at the same time more successful.

The Sylvester plan is as follows: "The arms are grasped at the elbows, drawn above the head and kept there for two or three seconds. Then this manoeuvre is reversed for the same length of time, and the arms are pressed against the sides of the chest. This to-and-fro movement is to be repeated about fifteen or sixteen times a minute until the individual begins to breathe naturally." It is best during the operation to raise the shoulders slightly.

The following extract on the subject

from a medical work is of interest, and recommends itself:

"1. If possible try to get some warm and dry covering in exchange for the wet clothing (send for hot water, or if it be not at hand, have a fire built into which bits of metal or stones may be thrown and heated, and where you may warm blankets or clothing of any kind that may be applied to the drowned person). These matters should be attended to when there are two or more assistants.

"2. It is of very great importance to first get rid of the water that is in the body. To do this effectually, roll the person over on the face, which should be a little lower than the body; if the bank is shelving let the heels be higher than the head; then wedge open the mouth and keep it open by a bit of wood or by a knot in a handkerchief. The tongue should also be depressed. Then getting astride of the person, press with the flat of the hand upon the abdomen, so as to push up the diaphragm. In half a minute, or probably less, the water will be driven out sufficiently to allow efforts at artificial respiration to be made.

"Then turn the person on to the back, place him in a horizontal position, keeping the mouth wedged open as before, and the finger on the back of the tongue, and make pressure again with the hand upon the abdomen, so as to press the diaphragm upward. Make the pressure slowly at first, and then force the air out, then withdraw the hand that the diaphragm may fall and the lungs inflate with air. This method permits the entrance of more air than when the chest walls are compressed. At first make three or four movements in a minute, then

increase to ten or fifteen, and persevere at that rate until there are evidences of returning respiration, or it is plain that life is extinct. If the operator is not alone, Sylvester's plan may be employed in addition. The arms are grasped at the elbow, and at each upward movement that is made with the hand upon the abdomen, the elbows should be carried downward and pressed against the body; when the hand is withdrawn the elbows should be raised and carried up alongside of the head. If others are at hand to assist, the body may be rubbed beneath the warm clothing and ammonia may be occasionally applied to the nostrils.

"Some most extraordinary accounts have been published of resuscitation by the use of hot water externally, and this method therefore deserves a trial, in conjunction with, but not to the exclusion of some one of the plans that have been recommended. In carrying out the hot-water plan the cloths should be saturated with water heated to 140° F., or as hot as the hand can bear. When the pulse has been re-established, the patient should be removed to a quiet spot, and then broths, beef tea or alcohols cautiously given.

"The use of electricity has not been insisted upon, because it is of doubtful value. It should only be used in conjunction with other procedures, and when a reaction has been obtained the strength of the current should not be increased. One pole should be placed over the spine and the other over the precordial region, if the heart is to be stimulated; if the diaphragm is to be stimulated, one pole should be placed over the pneumogastric, at the

base of the neck and the other in the seventh inter-costal space of either side. The period of suspended animation is a variable one, and some remarkable instances are on record. Thus in the *Lancet* (1840-41, p. 607) a case is reported in which an infant was resuscitated in two hours, after ten minutes submersion in two feet of water. In this instance the child was put into a bath at 75° F., and the water was gradually heated to 110° F. Friction and (probably most important) artificial respiration were made use of. In another case (*London Medical Gazette*, 1842-43, p. 448) a man had been immersed from twelve to fourteen minutes, but was finally resuscitated. The most remarkable case, however, that is a matter of scientific record, occurred at the French port of Oleron, in 1774 (*Annales d'Hygiene Publique*, Vol. XLIV, 1850, p. 306). It is narrated in the above journal that a lad of fifteen had been submerged for nearly an hour. He was rescued, rubbed, bled and treated with laxative enemata, and recovered entirely, though not for several days. Though these accounts are so astonishing they excite our credulity, it should be remembered that animals may be deprived of air from eight to ten minutes (Woodman and Tichy) and then resuscitated. It is not impossible, therefore, that the human being may endure deprivation of air in a similar way and to even a greater degree. At any rate, unless an individual has been immersed for more than an hour, his life should not be utterly despaired of, and one or other of the above methods should be faithfully and systematically tried, until success crowns the effort or it is plain that life is extinct."

CIDER.

It is surprising that of the three principal European beverages, wine, beer and cider, so little attention has been paid to cider in comparison with the other two. Wine is ancient and classical, and was no doubt the first invention to cheer the heart of man. It was a simple and natural thing to do, to press the fruit for the sake of drinking the juice, to keep the juice awhile and thus discover that there was a cheerfulness imparted to it, to keep it a little longer and find it vinegar and disappointment, and then to invent the method of staying it at the cheerful stage and preventing it from proceeding to the sour and vinegar stage. The process of distilling must have come long after this, and if it had never been discovered the sobriety of man might not have been alarmed by such a meaningless medley of words as the Blue Ribbon Gospel Total Abstinence Association. To this day grapes are pressed by the naked feet of women dancing on the masses of fruit to the sound of the fiddle and the lascivious pleasing of the lute, a custom which must be very ancient. The proper making of wine is an art demanding great skill, and the juice of all fruit is so delicate, the chemical changes are so subtle, that a long experience and considerable ingenuity are required to prepare it for transport from the place where it is made to other climes. There are few wines that do not taste far better where they are made than elsewhere, and there are many very delicious wines that are never tasted out of their own country. The art of wine-making has been brought to the greatest perfection at

Bordeaux, and it is from thence that the pure juice of the grape is carried to other countries and drunk in a perfect state.

What a fine national beverage we should have if the same pains and skill had been bestowed on cider! Cider is an innocent and delicious drink, with a much lower alcoholic strength than most natural wines, and far better than all the common wines below those of a high class. It is in general use in the western counties, Devonshire, Somersetshire and Herefordshire, especially. It is commonly made and drunk on the premises—that is to say, there is an orchard on every farm, large or small, and the cider is made for the family use, including the men employed. This is what is called rough cider, and the quality depends on the situation and the season. On large farms, or at the squire's mansion, it is often when just made put into an enormous cask, constructed by a professional cooper within the cellar, much too large ever to have been put into or taken out of the cellar, and then drawn off the lees for use; there is no better way of drinking cider than this, a case in which the liquor after having been made is not moved at all; and your real west-country cider-drinker likes his cider with no nonsense about it, sometimes giving a preference to it when it is what he calls *rash*—the word being applied to the cider, and not to the drinker, as the ignorant might suppose. There are many definitions of a gentleman, of which “to set in the chimbley corner, drink zider, and cuss” is one to be heard of to the westward. Whether it is particularly human to like variety in eating, but to become strongly at-

tached to the accustomed beverage in drinking, we will only hint to the psychologist and physiologist; but certain it is that the fondness for cider in cider countries is extreme, and its alcoholic strength is not enough to make it injurious. It is recommended for gout, and is well known to the aforesaid westward to be a complete cure for all the ills that flesh is heir to. Two men have been known to sit down before a hogshead of cider and not leave it till it was empty, being none the worse for it. Can anything more be said in the praise of cider?

Mr. H. Stopes has recently published a book on cider; and the Royal Agricultural Society's Journal, 1888, Vol. XXIV., Part I., just published, contains a report on “Recent Improvements in Cider and Perry-making, by Mr. D. R. Chapman,” which fully explains the whole process. It would appear by these publications that cider is coming into vogue, and well it may, for there seems to be no good reason why such quantities of low quality wines should be imported from France and Germany, while there is at home what we venture to say is a finer fruit from which a better beverage is made, always excepting the higher class of wines. We have heard of cider, in the early part of this century, made entirely of the golden pippin, a delicious apple, unhapily extinct, worn out by constant grafting, and this cider may have rivalled any wines. There is the cider made for home consumption, and the cider made for sale and presuming that the cider made for sale is well and honestly made, which is usually the case, there is still a great difference in the two. The orchard affords a very profitable crop, even if

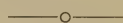
a really fine apple season comes but once in three or four years, and in these days of agricultural depression to promote the cultivation of apples and the consumption of cider is a benefit to mankind. The apple-tree takes some years to get into good bearing, and the right sorts are not easily obtained—facts which may certainly account for a great deal of neglect in the growth of this crop. But it is well worth while to plant the trees, well worth while to get grafts from the best sorts, and well worth while to pay more attention to cider-making than has ever been paid before. Mr. Chapman, in his Report to the Royal Agricultural Society, gives a list of the favorite apples in the cider counties used for making cider. They should be apples which ripen toward the end of October, that the temperature may not be too hot or too cold for the fermenting processes. A certain selected variety of sorts is now preferred, but in the case of the golden pippin the finest cider was made from one sort only, and it is probable that the wine-growing countries can correct us in this particular. The orchards of Devonshire, Somersetshire, and Herefordshire are gorgeous to behold twice a year, when they are in blossom and when the fruit is ripe, the branches laden with rich reds, yellows, and browns, and the air sweetened with the fruity scent. The fruit should be very carefully picked, or allowed to drop on very soft ground, and placed in small heaps to ripen fully, great care being taken that no rotten apples are used. On some farms rotten apples are used freely, an economical superstition which, like all other superstitions, is wholly condemned by

the holders of the true faith in cider. Another heresy is that a little water improves the cider, which is also an economical superstition. When ready the apples are crushed, and this is best done by the old-fashioned granite-stone roller and trough. In the modern contrivances iron and lead may come in contact with the juice, which is bad for the cider and the cider-drinker. When the apples are well broken up they are placed in large wooden tubs—a wine-butt with the head taken out is a very good receptacle—and allowed to stay twelve to twenty-four hours or more, during which time a scum is thrown up, and the broken apples assume a brown color, which is imparted to the cider. The broken apples, called “math,” “cheese,” or “cake,” according to the county, are then pressed in a press constructed for the purpose, several layers, separated by haircloth or very clean straw, being pressed together, and the juice as it runs out is caught and transferred to tubs, sherry hogsheads, and sherry butts, with the head out being preferred, when the process of fermentation takes place. Small farmers do not keep a press, but take their math or their apples, as the case may be, to a public press, or pound, as it is sometimes called. The cider cannot, however, be so carefully made as it is in a press kept by the maker himself. For home use the fermentation is allowed to go pretty far, and the cider so much esteemed by the natives is produced. It used to be freely sold by the publican, and a man could go to a public-house, drink his cider and have his talk, and go home none the worse. But now beer and spirits, adulterated, pay the publican

much better than simple cider, making a man more thirsty in lieu of quenching his thirst, and cider has gone out of fashion with him—the more is the pity. The cider which is made for sale, bottled in champagne bottles, and sometimes sold as champagne cider, though sparkling cider would be a much better term, is more carefully prepared. The fruit is selected for the purpose from the best sorts, and the juice after having been pressed out is racked from cask to cask, and treated with sulphur to check fermentation, as all wines are treated at Bordeaux. The use of sulphur is locally and contemptuously called matching, for your real cider-drinker likes his liquor sharp and stringent, despising the soft, sweet cider of the stranger. Sulphur has the effect of destroying the vitality of the yeast, and is used freely in making the clarets and the delicious Sauternes of the Garonne. In the following spring of the year, the cider having been pressed the previous autumn, it is ready for sale in casks or bottles. It is sometimes sweetened for the public taste, as in the case of champagne, when the finest sugar is used, and if bottled properly, whether sweetened or not, it will effervesce as champagnes do. Bottled sparkling cider is the best beverage for India, far more wholesome than champagne or pale ale, probably from its lower alcoholic strength, and is very much in demand there. The price is ridiculously low in comparison with champagne, and always excepting the finest brands, which, however, may be rivalled, it is a better drink. A second Bass should arise in Devonshire and devote his life to making cider for the benefit of man. From the valleys of the Exe, the Dart

and the Tamar, where the best cider is now made, a sparkling liquor might copiously flow which so-called total abstainers might greet with favor, and the heart (or mind is it?) of man might be cheered and not inebriated.

—*The Saturday Review.*



HEMORRHOIDS.

Dr. T. W. Poole gives vent as follows in the *Canadian Practitioner*:

“The piles! Aha! I knew them well, each feature, though I may not see ’em; old foes, which fume and fret, and swell and vex and plague my perineum. You blush at mention of a ‘pille,’ and would, perhaps, the theme avoid; well, then, suppose, to put on style, we call the thing a hemorrhoid. Though bearing an ill-omened name, it seemed as if they might not pain us, when first, as visitors, they came and took up lodgings in the anus. But at each succeeding bout the pelvic pains appear distincter, and there can be no longer doubt of their relation to the sphincter. You ask me by what obvious signs you may with certainty detect ’em. Well, I can only say that mine are like a hornet in the rectum, which, having wandered from the way, and angry at the situation, stings right and left while yet it may, and tortures me with defecation. ‘Avaunt! it is a vulgar rhyme.’ Yet stay, there must be means to cure ’em. Oh, yes, if you but give them time, and meantime patiently endure ’em. There are a thousand cures, you know, all certain sure as dead-shot candy. ’Tis well to buy a score or so and lay them by to have them handy; and when the hornet’s rage is spent and things assume their wonted quiet, the cure,

though it may not prevent, will quickly quell the painful riot."

"*Owed Teucrium Scordium.*—How slick and cool in Dr. Poole, to run a rhyme on hemorrhoids. The red hot shot that he has got has prompted him and all his kin their best attempts to them avoid. To ease his pain, advance his gain, relief we may accord him. Upon the spot which is so hot, and makes him fret and sometimes sweat, apply the *Teucrium Scordium*. A powder fine, if good and prime, the days are shortly numbered when he will grin and lively spin, free from the foe, to come and go no more with piles encumbered.

"Alas! the day I found the way, how many have I trusted? My praise is sung on every tongue; from lip to lip, so goes the tip, and every pile is busted. In capsules clean, with lanolin, preserve the ointment nicely. Insert at night; each weary wight in sweet repose his eyes will close; you have the plan precisely. No more to say upon this lay; the muse is nigh exhausted. Whoever tries, if virtue lies in easing man by this new plan, will kindly keep me posted."—*Dr. John Aulde, Philadelphia.*

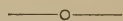
Both Dr. Poole and Dr. Aulde
Have of their piles so nicely told
One might be sure that perfect cure
Would follow soon and follow faster
To rid of this extreme disaster.

But we have felt the "hornet sting"
All round and round the luckless "ring,"
And candy ate and capsules poked
Till we have thought we've been joked,
And never were we satisfied
Until a specialist was tried.

He placed our note within his coat,
And, looking wise, he fixed our thighs
Till self and limbs were in the "Sims,"
Then, by a trick I did not see,
He thrust a needle into me.

I close my rhyme, for since that time
I've had a cool sensation
Where long before I was quite sore
And "hot as all creation."

Medical Age.



SAYINGS—WHO FIRST SAID THEM.

Many of our common sayings, so trite and pithy, are used without the least idea from whose mouth or pen they first originated. Probably the works of Shakespeare furnish us with more of those familiar maxims than any other writer, for to him we owe, "All is not gold that glitters," "Make a virtue of necessity," "Screw your courage to a sticking-place," (not point), "They laugh that win," "This is the short and long of it," "Comparisons are odious," "As merry as the day is long," "A Daniel come to Judgment," "Frailty, thy name is woman," and hosts of others.

From the same we cull, "Make assurance doubly sure," "Christmas comes but once a year," "Count their chickens ere they are hatched," and "Look before you leap."

Washington Irving gives us the "Almighty dollar." Thomas Norton queried long ago, "What will Mrs. Grundy say?" while Goldsmith answers "Ask me no questions, and I'll tell you no fibs." Charles C. Pickney, "Millions for defence, but not one cent for tribute." "First in war, first in peace, and first in the hearts of his fellow-citizens" (not countrymen) appeared in the resolutions presented to the House of Representatives in December, 1790, prepared by General Henry Lee.

Thomas Tasset, a writer of the six-

teenth century, gives us: "It's an ill wind that turns 'no good,'" "Better late than never," "Look ere you leap," and "The stone that is rolling can gather no moss." "All cry and no wool," is found in Butler's "Hudibras."

"Dryden says, "None but the brave deserve the fair," "Men are but children of larger growth," "Through thick and thin." "No pent-up Utica contracts our powers," declared Jonathan Sewell. "When Greek joins Greeks, then comes the tug of war," Nathaniel Lee, 1692.

Edward Cooke was of the opinion that "A man's house is his castle." To Milton we owe "The paradise of fools," "A wilderness of sweets," and "Moping melancholy and moonstruck madness."

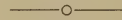
Edward Young tells us, "Death loves a shining mark," "A fool at forty is a fool indeed;" but, alas! for his knowledge of human nature, when he tells us, "Man wants but little, nor that little long."

"Of two evils I have chosen the least," and "The end must justify the means," are from Matthew Prior. We are indebted to Colley Cibber for the agreeable intelligence that "Richard is himself again." Johnson tells of "A good hater," and Macintosh, in 1791, coined the phrase often attributed to John Randolph, "Wise and masterly inactivity."

"Variety's the very spice of life," and "Not much the worse for wear," Cowper; "Man proposes, but God disposes," Thomas a' Kempis.

Christopher Marlow gave forth the invitation so often repeated by his brothers in a less public way, "Love me little, love me long."

From Bacon comes "Knowledge is power," and Thomas Southerne reminds us that "Pity's akin to love." Dean Swift thought that "Bread is the staff of life." Campbell found that "Coming events cast their shadows before," and "'Tis distance lends enchantment to the view." "A thing of beauty is a joy forever" is from Keats. Franklin said, "God helps those who help themselves;" and Lawrence Sterne comforts us with the thought, "God tempers the wind to the shorn lamb."—*Treasure-Trove*.



THE INTELLIGENCE OF BIRDS.

Dr. Charles C. Abbott describes some interesting experiments on the intelligence of birds. When he girdled branches on which birds had built their nests and thereby caused the foliage to shrivel up so that the nests were exposed, the birds abandoned the nests, although they had already laid their eggs. But in a case in which the nest already contained young birds, the old birds remained, notwithstanding the exposure of the nests, until the young ones were able to fly. He placed a number of pieces of woolen yarn—red, yellow, purple, green and gray in color—near a tree in which a pair of Baltimore orioles were building a nest. The pieces of yarn were all exactly alike except in color. There was an equal number of each color, and the red and yellow were purposely placed on the top. The birds chose only the gray pieces, putting in a few purple and blue ones when the nest was nearly finished. Not a red, yellow or green strand was used.

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THE CARE OF THE SICK.—V.

BY THE EDITOR.

The most extended use that can be made of water in the care of the sick, is by its external application. The nature or kind of effect obtained depends upon the temperature of the water; the condition of the patient determines what that temperature should be.

The effects of a cold water bath, briefly stated, are these—it abstracts heat from the body, particularly from the surface. It has been shown by experiment that if one hand be placed in cold water the temperature of the other hand will be perceptibly lowered. Brown-Sequard demonstrated that ice applied to the small of the back causes a contraction of the minute blood vessels of the kidneys, and consequent blood-supply to these organs.

When an individual first enters a cold bath, he gasps for breath, a sense of chilliness is very prominent, the lips turn blue, the skin takes on the "goose flesh" appearance, and the action of the heart is accelerated. The result that follows is, that the nerves of the skin are depressed and the blood is driven to the center or internal organs of the body. In order that the cold bath may be beneficial, there must be sufficient bodily vigor in the individual taking the bath to withstand the shock and establish a reaction on coming out of the bath.

When this is the case the bath acts as a tonic and a refreshing sense of exhilaration is experienced. But if on the other hand the patient is too weak or remains in the bath too long, the condition of reaction is supplanted by coldness, depression, weakened pulse and muscular debility. The advantages of the cold bath under favorable circumstances are, that the circulation is stimulated, tissue changes take place more rapidly, the appetite and digestive powers are improved and the body gains in weight.

The effects of the warm bath are different. The warmth imparted to the skin causes the blood to increase at the surface, the skin becomes red from the freshened activity of its vessels, caused by the heat imparted. If the bath is taken too hot or the immersion be prolonged, a sense of faintness is felt and muscular languor takes place. The warm bath increases the action of the lungs and skin, copious sweating is produced, followed by a loss of body weight.

There are various modes of applying water and different kinds of baths; as the cold bath, steam bath, wet pack, sitz bath, etc. The following extracts from Prof. Bartholow's valuable treatise on *Materia Medica* describes the way these different baths should be given:

"The water of a *cold bath* should have a temperature of 40° to 60° Fahr. If employed for its tonic action

the patient should not remain in it longer than the period of complete action. The *tepid bath* has a temperature of from 85° to 95° and the *warm bath* from 95° to 100° Fahr. and the *hot bath* from 100° to 106° Fahr. The duration of the stay in these will depend on the purpose to be accomplished, whether mere excitation of the circulation in the skin, diaphoresis or muscular relaxation. In directing the warm and hot bath it should not be forgotten that a diseased state of the cerebral arteries is a contraindication to their use." "The Russian or steam bath consists in the exposure of the body in suitable apartments to the vapor of hot water, at a temperature gradually increased from 95° to 110° Fahr. The bath should not under ordinary circumstances exceed fifteen minutes duration. In order to overcome the relaxing and debilitating effects of the bath the patient should either enter a cold bath or have cold water dashed over his body. This expedient conjoined with friction of the surface increases materially the good effects of the Russian bath. In the absence of special arrangements for giving the Russian bath, simple means will suffice. The patient may sit upon a low stool with a blanket pinned about his neck and under this the vapor of water may be conducted. Or, if confined to bed, the patient may be placed on a gum cloth and the blanket may be elevated above him by hoops arranged transversely under which the vapor of water may be conveyed from an ordinary tea-kettle. Fresh lime is sometimes used to generate hot vapor. The patient is placed on a low stool and surrounded by a blanket. Some pieces of *freshly burned* lime are then dropped

into a vessel of water placed under the blanket. The slacking of lime causes great heat and the consequent generation of a considerable quantity of watery vapor which also carries up with it minute particles of lime. This proceeding is said to be especially efficacious in croup and diphtheria.

"Enveloping the body in cloths wrung out in hot water or wrapping in a sheet which has been wrung out in hot water and then covering with blankets is a mode of applying moist heat which may be advantageously used. To various parts of the body under the designation of 'fomentations,' warm and hot water applications are constantly used in domestic practice.

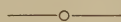
"The *wet pack*. — This efficient means of producing the good effects of cold water applications consists in wrapping the body in a sheet wrung out in cold water. The appliances are these: An ordinary single bedstead, a hard mattress covered with several thicknesses of blankets or comforters, and a linen sheet. The sheet is dipped in cold water, and when thoroughly wrung out is laid smoothly on the bed. The patient reclines on the sheet, his head supported by a pillow. One side of the sheet at a time is then drawn over the patient's body, and neatly tucked under the opposite side, the feet and legs being lifted up and the sheet made to entirely envelop them. Some blankets or comforters are now closely applied around the body of the patient. There is at first experienced a disagreeable sense of chilliness and discomfort which is soon succeeded by a delightful glow. When reaction is fully established the wet pack should be removed and the body

be well rubbed with dry towels. The duration of this application should be from fifteen minutes to an hour. When active diaphoresis is the object to be accomplished the patient must be well enveloped in blankets and continue in the bath for an hour.

“The *hip or sitz bath*.—As regards temperature this bath may be cold, tepid, warm or hot, according to the indications requiring it. The apparatus for administering it consists of a tin or wooden tub of sufficient capacity to contain water enough to cover the hips and lower part of the abdomen when the patient sits down in it. The tub should have a raised back to support the patient, and should be sufficiently elevated above the floor so that the feet may rest comfortably when the patient sits down in the water. In the absence of a special arrangement of this kind any ordinary washing tub will suffice. The duration of the hip or sitz bath will be from five to thirty minutes.”

The dexterity or readiness with which these applications are made in the nursing of the sick has much to do with the comfort and feelings of the patient. When you undertake any of these applications have everything at hand you are going to use before you commence. Nothing is so annoying to a feeble patient that is being handled or treated as hindrances and waiting after you have once begun. Rapidity of execution accompanied by dexterity and gentleness wins the confidence of the patient. Many times the good effects that would follow your ministrations are absorbed by the tediousness of your manœvering that worries and tires out your patient before you have finished your work.

The object to be obtained in the handling of the sick is that the patient will feel better after you have finished with him than before you commenced. But this desirable end is not always accomplished on account of the manner of execution.



THE HEALTH OF THE MIND.*

BY

BENJAMIN WARD RICHARDSON, M. D.

— We have been accustomed, in thinking of the health of the mind, to look upon it as subordinate or secondary to the health of the body. There is a well-known saying which is on every one's lips, *Mens sana in corpore sano*—a sound mind in a sound body—which saying has become interpreted, by common consent, into meaning, that if the body be sound, the mind must be sound. The proverb does not actually convey that idea; it simply suggests that a sound mind in a sound body is a good combination; it gives no precedence to the body—nay, it puts the mind first, as if it supposed a sound mind as the precursor of the sound body. *Mens sana*. And this is a perfect reading of it. There have been some philosophers, some, indeed, of the best, who, holding the opposite view to that which is now commonly held, have traced to the mind all the evils which appear in the body. Thus the prince of philosophers, Plato himself, teaches that all evils of the body proceed from the mind; and Democritus is quoted by industrious and quaint old Burton, in his “Anatomy of Melancholy,” as teaching

* Presidential address before the Health Congress at Hastings, England, April 29th, 1889.

that if the body should bring an action against the mind, surely the soul would be cast and convicted; that by her supine negligence she has caused such inconvenience, she having authority over the body, and using it for an instrument, as Cyprian says, as a smith doth his hammer. It is not necessary for us now to follow out the subtle argument that is here introduced in regard to the intimate relationships of mind and body. We are fully conversant with the fact that the body can be injured through the body without any direct instrumentality of the mind; for, in point of fact, all our sanitary labors have been carried out under the conception that the success of our work consists in detecting and removing those obvious external causes of disease by and through which the bodily organs, including the organs of the mind itself, may be and are affected; but we are not so conversant with the study of the health of the mind primarily, and independently of the body, and of the health of the body as dependent on that of the mind. I propose, therefore, in this address to dwell on this latter topic entirely, and to try and open up some new thoughts in relation to it. On the first outlook, the phenomena which connect themselves with the study of the mental origin of disease present the closest analogy with the phenomena connected with the physical origin of disease. We say, when we are thinking or speaking about the diseases which are of physical origin, that they are the results of uncleanness; and we proclaim in relation to the removal and extinction of such diseases that cleanliness is next to godliness. We

say of physical causes that they are infectious or contagious in their action. We say, in respect to physical agencies inducing disease, that they are most active in particular seasons of the year. We ascribe to different ages of life different effects of physical influences acting upon the health. We declare of the causes which excite to disease, through physical action, that they are modified, increased, or reduced in intensity, by the quality of heredity; and when we come to look at causes affecting the health of the mind we discover analogies of the clearest kind. These analogies are facts to be remembered as greatly simplifying our present study. Unfortunately, they do not exhaust it, for there are in the mental phenomena of disease some causes of disease which stand out by themselves as causes, and which perform a double injury in that they affect not only the mind itself, but the body through the mind. There is, moreover, a mutual reaction between the mind and the body, in regard to the health of each, which is most close and important. We know that the state of the body affects the state of the mind; we know that the state of the mind affects the state of the body. These are facts of every-day knowledge; we feel within us the two distinct natures, warring with each other, or in accord with each other, or helping each other, and, as it were, reasoning with each other, although it is only the mind which, recognizing itself as well as its body, really reasons. We feel and are strangely conscious of all this, but what we do not feel and do not appreciate, what we have yet to learn to appreciate, is the independency of the two empires of mind and body, as

well as the dependency of the one on the other. We are conscious that the food of the body influences the health of the mind, as when we say of some unsuitable or indigestible thing, "It has made me dull of mind, it has made me sad, it has made me irritable, or has in some other way affected my equanimity." But we do not recognize with like readiness and in the same way the effect of the foods of the mind on the mind and its health; nor is this remarkable, for the body feeds perceptibly, and by one stomach alone, while the mind feeds imperceptibly, by five stomachs, by every sense, which is to it a veritable stomach from and by which it receives its aliment, be that good or bad, and from which it is renewed and from day to day sustained. These foods of the mind entering the mental organization, the *camera nervosa*, largely, if not altogether mould that organization into set form, according to its quality for molding. They are so like the touch of the sculptor on the clay, that to a great extent all men and women born shape their mental surface according as they are led to give it form and shape. I could not, if I should search for years, find a better simile. Common foods and drinks that make the matter of the body must be healthy in order that the body may be so; and the impressions which enter the body by the senses, the foods and drinks of the mind, must also be healthy in order that the mind may be so. Granting, therefore, that the substance is good, and the moulding or modeling good, all will be good; there will be the *mens sana in corpore sano*. The sanitarian, when he is looking after the pure things out of which the body

shall be constructed, the pure food, the pure drink, the pure air, the pure warmth, is fulfilling the physical part of his duty. Whenever he is taking care that with the materials for construction no evil or deleterious thing shall enter, he is performing his legitimate part on the physical side. He is preserving the material of life from physical contamination; he is giving to the bodily form its perfect shape and qualities. To complete his task he must add to his studies the study of the health of the mind, that luminous receptive surface which changes the mere material substance, the clay, and gives it, according to the depth, the purity, the equality, and the brightness of itself, the health of itself; its innocence and its sanity; its approach toward the one pure and sane mind from whence it proceeds, and to which it must return. Let us follow this out in orderly form.

MENTAL PURITY.

In the new study of this to them dual art, the coming school of sanitarians will take up a new sanitation. The students of this school will begin, as their physical predecessors began, by training into health from simple principles; and as uncleanness of mind is the most obvious sign of mental disease, and cleanliness the surest indication of mental health, they will strive to discover the prime sources of mental impurity, and will strive equally to introduce, in the place of the unclean influences, the clean and the wholesome. The field of the research here is as wide as the field of humanity, and of all studies is the most absorbing. It includes the primitive study of the conditions

leading to the perfect mould of mental health; a study old as man is old, and yet young as the youngest of men. It involves the problem of the fashioning of the child from the first moment when it begins to feed on the universe, by its eyes, its ears, its touch, its taste, its smell. It is the study of these first mouldings into the modifications of mind incident to the train of years and changing scenes, from the first gasp of breath to the last exhalation of that vital spirit. There seems a wide field for discovery here, and yet, wide as it is, there are at once displayed upon it certain plain truths which are immediately practical in their nature and influence as bearing on the health of the mind. One primary truth, for example, at once comes forth, that the mental food most early and most continuously and most repeatedly supplied, is that which, for health or disease, most potently affects the mental surface, and carves its place upon it. But the feeding of the mind governs the appetite of the mind, and by what the senses take in the health of the mind is good or bad, clean or unclean. Each sense makes its own bed. Let the eye for long series of years take in no view save that which is squalid, and common, and impure, and by that custom the mind represents the fashion of what it sees. For art, for beauty, it will lose its primitive adaptability, whatever that may have been, and after a set time for attaining maturity will remain, in respect to purity of sight, a deformed mind, one that can at best only be partially and imperfectly improved. A mind so deformed is never in perfect health and strength. Why for it shall the earnest sanitarian plead

for open spaces, flowers, a clear sky, a clean street, an artistic dwelling—all that makes life strongest and happiest? Why, indeed? The difficulties we sanitarians are compelled daily to meet in our work of reform, lie beyond any description that could here be given in unhealthiness of mental visions. The visions of our forefathers, for what reasons should they be altered? Am I not to be content with what is? Why should any changes be introduced in my time? So reason they who, from what is called apathy of mind, cherish the worst and most unhealthy errors. On minds so attuned we waste our powers in argument. As well argue about colors with one who is color-blind. We need not argue. We must get the *young* mind to learn the scenes of the pure and the beautiful, and our ultimate triumph is then secure. Do you ask me to give you some practical idea bearing on this point of mental health and its guardianship? I will give it straight. I will take the illustration from the schoolroom, where the first mental foods are administered. Every man and woman now present is, to a larger degree than he or she has the slightest conception of—until he or she reasons it out from memory and comparison—the reflex of that market of the mind, the schoolroom. The first care of the teacher should be the room of the taught. Let the room be bright, cheerful, healthful, and life begins from a good mental starting-point. Let that room be dark, littery, melancholy, dirty, and the prestage of life is injured from the starting-point. Some quarter of a century ago my professional duties led me to the examination of certain schools at-

tached to Union Workhouses, in which children were herded together in rooms unfit for lower animals. They were one and all the victims of low health physically, and the medical officers were in despair what to do with such chronic and hopeless feebleness as prevailed among them. But this, bad as it was, was only part of the evil. There was the addition of the mental misery and impoverishment. I observed that such schools made poverty, bred it, nursed it; made misery, bred it, nursed it; made mental disease, bred it, nursed it. I gave great offence for my plainness of speech, for which I had no reason to care, since the disclosure of the existing evils led to important ameliorations, and I knew from such centres of gloom nothing could come that could lead the so-called scholars into a purer and better mental condition. These observations had reference to schools of a low class and of a past day, since which day there has been a march of improvement. Still the march is slow and very faulty. My eye recalls at this moment schools where the children even of the well-to-do are taught, in which perennial gloom is spread like a pall over the mental life, and in which the effects on the after career are of necessity sad and unwholesome. Better off indeed, now, are the children of the poor in some of the bright country boardschools than the children of the rich in the dismal cloisters where they sit in classes from year to year, within four walls in which the sunlight has no full play, in which no flowers are seen, no pictures, nor anything of beauty to gladden the sight. These sad schools are to the sight of the mind uncleanly. Let

them be reformed, and reformation in the scholar will follow on and on to the end of life; the house will become pure, the study or office will be orderly, the bedroom will be healthy, because the mind has been taught to become pure, orderly, and healthy. In many other ways health of mind through cleanliness of the sight will extend, as the art of attaining mental salubrity is extended. Nor will the sight alone share in the advancement; the sense of hearing will be purified. In the early part even of this present reign, great statesmen, great soldiers, great lawyers, and other great men were given, on occasions, to express themselves in terms and words which in these days would savor almost of insanity, in terms and words that no person of respectable life would now listen to without shame; and still among the most unwholesome and mentally unhealthy of our people the same uncleanness lingers. Where it lingers health cannot be. Physical health will not be clad in dirty raiment; mental health will not be tolerant of uncleanly language nor of language false or foolish. The true sanitarian must learn to train the ear to the purity of discourse, as he would to perfect music, or as he would train the skin to purity of water, and the eye to purity of sight. In like manner the olfactory sense comes under the rule of the health of the mind. By the olfactory sense the mind naturally should learn, with an acuteness amounting to genius, the presence of most of the physical causes that lead to the most serious and devastating diseases. Sir Edwin Chadwick, in one of those happy observations which so often fall from him, says that the

physical condition of a whole nation might be told by a nose sufficiently critical. And the statement is true. Unfortunately the sense of smell is not yet so freed from the odors of disease as to distinguish, with due refinement, where there is and where there is not every hurtful thing that gives a venomous odor; but this want of refinement is due merely to absence of purity and to deficient knowledge of the odors that are injurious. The detective sense is blunted, and often so much blunted that the worst odors are unknown to the mind, and being unknown, allow the causes of disease to enter without, the vaguest suspicion of their presence. The health of the mind, so strongly affected through the senses of sight and hearing and smell, is not less affected by the tastes of things that reach the mental surface through the palate. What lower mental health can there be, what lower standard of mental condition, than that of the sensual palate that shall find relish in putrefying food, and that, like the lower palates in creation, shall be delighted to feast on garbage. Yet I myself have twice in my professional career known death to follow the corrupt enjoyment of this disgusting taste. And what again of the bad mental health that cultivates a desire for excessive gluttony of taste, that craves for that rich unwholesomeness of foods and drinks which is as sure to bring disease of body and mind as the mere act of swallowing them is sure? We shall hear in the present Congress this question of the palate and its tastes discussed on its physical side. But let us not forget the mental side; let us feel certain that on the mental side also there is a say, and

that the mind that is nearest to purity and simplicity, in the matter of cleanliness of that which reaches the first portals of the body, is the nearest to the mind which is healthiest, purest and best. Neither let us forget, lastly, that the mind is fed by the sense of touch, and that even in touch there is an art of sanitation. Refinement and firmness in this sense is one of the choicest evidences of good mental health; want of refinement, want of firmness, want of precision, is one among other proofs of bad health of mind. Thus the sense of touch becomes as it were a gauge or test as well as an aid to the maintenance of mental health. If the day should ever come, as I trust it may, when the sanitarians, with their full forces arrayed, shall form a school for teaching all that pertains to their work, they will find in this department of it full scope for the establishment of a professorship treating solely of the food of the mind for the health of the mind, and thereby of the body likewise; the clay, and the spirit that not only moulds the clay, but fills the mould.

MENTAL CONTAGION.

The illustrious French philosopher Esquirol first clearly defined, under the term "moral contagion," that in the study of mental phenomena there may be detected variations of action, and divergencies from the ordinary or natural conditions, which are excited by contagion, in the same way as physical derangements are excited by physical contagions. Despine', of Marseilles, who in many respects may be compared with his great master, Esquirol, has followed this line of study with wonderful success, and has given to us a history of moral contagion

which claims the attention of every social scholar. For my part I like and approve of all that these teachers teach, except the term they use to set forth their argument. I prefer the term mental contagion to that of moral contagion. Moral contagion I cannot conceive as conveying any sense of variation from a standard health of the mind, and any contagion moral in its nature would to me indicate a contagion that was good, and contrary, in its nature, from the idea of contamination usually connected with the word contagion. I, therefore, choose the term "mental contagion" as being more to the point, and as most in accord with the commonly accepted expression. We will study this division of our subject under that title. The unhealthy mind affected by mental contagion presents itself, when it is carefully observed, over a much more extended field than is generally supposed. It is, in fact, a representation of a series of phenomena so widely spread that its very extent is a cause of its obscurity: we are so familiar with it that we do not recognize it; we are so familiar with its results that we come to look on them as occurrences sufficiently common and natural to be unavoidable. It is only when we are critical in our analysis that the obscurity begins to pass away, and the character of the phenomena appears in all its clearness and extensiveness. When these phenomena are recognized it is astonishing how contagious affections of mental origin are seen to resemble in their course those arising from simple physical contagions. Sometimes they take a spreading or epidemic character, after the manner of the so-called catching

diseases with which we are most familiar, and are seen to widen into great epidemic outbreaks, extending over large tracts of country, and causing the strangest of effects known in history. One of these marvellous outbreaks of mental contagious disease, not to name any more, was the dancing mania of the fourteenth century, during which assemblages of men and women who had come out of Germany to Aix-la-Chapelle, united by one common delusion, formed circles hand in hand, and, appearing to have lost all control over their senses, continued dancing, regardless of the bystanders, for hours together, in wild delirium, until at length they fell to the ground in a state of utter exhaustion, panting, senseless, and laboring for breath, yet not infrequently rising, after a rest, and continuing the motion until in many instances, they died from the effort. At other times these outbreaks from mental contagion, in which one victim has followed another, has taken what, in regard to more ordinary known diseases, is called the sporadic form—that is to say, has been developed, or has broken out, in some particular locality, and has not extended beyond the boundaries of the locality. An outbreak of a convulsive type, arising from fear, once occurred at a manufactory at Hodden Bridge, in Lancashire, in which outbreak over twenty persons, taking the contagion from one individual, were attacked most severely, but without communicating the affection beyond the place where it broke out. Like the common contagious diseases, these diseases of mental contagion have been known to have their seasonal proclivities. The ordinary

spreading diseases, such as measles, scarlet-fever, cholera, typhus, have each their favorable seasons of intensity and decline, their maximum and their minimum periods. It is the same with the affections of mental type which spring from contagious influences. In the Shetland Islands a contagious mental affection, which was ultimately cured and prevented by moral means alone, broke out in the year 1817 during the summer months, and recurred every year during the same months until it was finally disposed of. In like manner suicide—which may be looked on as a distinct form of mental disease—is of so contagious a character that during the reign of the first Napoleon the sentry-boxes of a station had to be burned, because one soldier, having set the example of hanging himself in a sentry-box, was followed by so large a number more. Suicide also has its season of height and decline, its maximum being reached in June and its minimum in February, like a true epidemic. Another singular and important characteristic quality of the contagious mental diseases—one of immense importance to remember, and one which links their phenomena very closely with those of the common contagious diseases—is what may be called the line and order of their development and decline. The common contagious diseases usually commence from a single point, rapidly increase in intensity, and then decline often as suddenly as they have come on the field. The same is seen in the contagious mental diseases. Despine illustrates this very cogently from the contagion of the duel. At first, he shows, it is necessary to have some

great cause to raise the disease of mind which leads to a first contest of duelling. But let the contagion go on, and soon the merest pretext is sufficient to excite the phenomenon, until at last it ceases altogether for the time, as if it were worn out by its own excessive fury and folly. That I might bring out in strong relief the contagious acts by which the health of the mind may be affected, I have cited strong instances, some of which may be considered as belonging rather to a bygone than to the present age. I admit the fairness of the criticism, but the lesson, unfortunately, remains. The student of the present need not go back to the past in order to find examples of mental contagions which are as injurious, directly, to the mind as they are injurious, indirectly, to the body. Those strange phenomena of movements of the limbs which are excited, in susceptible children, from imitation, are of this class; and the still stranger phenomena of hallucination and spiritualistic manifestations are of the same contagious order, and are so contagious that whole masses of people may from one case, itself suddenly developed, be affected by an epidemic visitation having its period of maximum intensity, and then, the epidemic influence withdrawn, sinking to a minimum, and for a time ceasing altogether. It is deserving of remark, before I bring to a close the present section of my discourse, that sometimes the physical and the mental forms of disease run together so intimately that it is difficult, even for the skilled observer, to distinguish between the one and the other. The fact here named is conspicuous during the existence of the outbreak of the alarm-

ing disease, Asiatic cholera. The intelligence of the phenomena of this malady poured into the impressionable mental organism, with all the tragedy of detail and circumstance of fear, is of such telling force that symptoms of the fatal disease may be introduced by the senses, and implanted with so strong an imitation as to make the distinction between the imitative and the actual disease a puzzle even to the practiced observer.

MENTAL SHOCK.

The mental health of man is much affected by mental strain or shock. In this respect man stands alone in the world of life, separated from the lower families by his higher mental organization. The difference is one which is not altogether in his favor, and which is very distinctive in respect to him. He shares with the animal world generally in regard to the influence of the animal appetites on his physical nature. He shares with many of the higher classes of animals in regard to the influence of fear, rage, jealousy, and those faculties which we call the passions. But he is subject to other influences which come all but exclusively to himself, which come to him through his mind, and which are felt through his peculiar moral, intellectual, and habit-forming characteristics. More than this, he possesses what other animals do not possess: a special gift of foreknowledge, which causes him to be affected by the anticipation of what is to happen, or what may happen, which anticipation may be to him as severe as the actual occurrence of that which is anticipated. From this cause man is subject to what is called mental shock, and, as a con-

sequence, to a whole train of disturbances of mind, extending often into the body, which in the most learned works treating on the affections of the lower animals are unrecorded, and, which, even in learned works treating on man himself, are recorded with too little respect. To observe that a human being has fallen into disease from the effects of a wound, a stun, or loss of blood, is common enough. Volumes are written on such events and their after effects; but to consider the mode of injury by an influence that shall penetrate by the senses or windows of the mind, that were too refined and indefinite a task. Yet this effect of shock on the mental constitution, one of the most potent of all influences on man, mentally and physically, becomes an influence which increases day by day with the increasing intelligence of the race. An uncultivated, all but animal human family, possessing the appetites as its leading pleasures, and having few other qualities higher than emotions resting on the appetites, may be so near to the animal world that few other beyond the grosser physical agencies effect it. But in a higher development and civilization these positions of mind and body are so extremely modified that impressions telling through the mind become rapid, powerful, and persistent, until, at last, they may be predominant. The mind begins to rule; the body, now more subservient to the mind, grows up more susceptible to mental pressures, and the diseases developed in it, partaking of its own susceptibilities, are brought out more decisively by and through the mental impressions it receives. So on civilized man the

effect of sudden shock is of serious import. The rougher natures, even of this day, laugh and jeer at the refined natures which are affected by what to them of ruder nature seems to be comparatively gentle perturbations. Between the highest and lowest civilizations there is thus a wide gulf, which is historical in its meaning, and which will remain historical until all the world is equally civilized, if such an event can ever be. Also, until such an event, remote as ages, is reached, the health of the mind, as influenced by shock, will be a topic for very careful sanitary study and lesson—a study increasing as civilization increases, with this fact always to the fore: that excessive shock and strain might become so effective in action as to destroy the perfect mental balance of a whole people, and leave it naked to its enemies. For the influence of mental shock in susceptible subjects has this momentous fact about it: that it tells on every age of life, from the first completion of a nervous organization to the final ending of it. It may become subdued in the latest stages of life, when the senses are getting dulled, and the mind is becoming *sans* everything; but in all preceding periods and stages it is in action. I recall at this moment a youth whose mental health is so disturbed by one particular series of vibrations acting on his mental organism, that though to other persons such vibrations are quite bearable, when they occur to him he is not himself. Yet the shock that implanted this perturbation on his mind was inflicted on him through his mother before he was born into the world. Nay, the shock may even go further back than that: it may be

traced back for three or four generations. A person, strangely and terribly affected, was brought to me, suffering with an intense susceptibility to one particular impression, which, to ordinary minds, is of no consequence whatever. To this person, this impression, whenever it came, was a bar to all mental health, and, by the effects secondarily induced, was a bar also to physical health. This phenomenal variation from health was not, I felt sure, a passing fancy or vapor, but was the recurrence of an ingrafted hereditary susceptibility to that one impression; an ingraft occurring originally under circumstances which were peculiar and, perchance, terrible in their nature. At first nothing could be remembered that would either negative or confirm the theory suggested. But a careful inquiry, passing through three generations, established the truth of the theory beyond doubt. These phenomena, looked into, would be found to be of constant recurrence, and would account for many human conducts and events which now pass current as mysteries unfathomable. They are the mental echoes of the physical dead; old vibrations played on a new instrument. They account for those ideals of pre-existence which almost everyone experiences, and which, to persons gifted with the faculty of memory in an extreme degree, are often positive annoyances at times when affairs of current every-day moment are calling for earnest attention. These effects of mental shock on the mind in causing permanent bad health of mind are most easily inflicted in the period of infancy and early life, school life; of which let

one illustration suffice. A gentleman who for many years was under my observation as a confirmed mental invalid, a strong man in most respects, but utterly irresolute, and in the end of disordered mind altogether, acquired his mental disease from sudden distrust. He had, in his childhood, an innate dread of deep water, and he had, at the same time, a tutor, for whom he held the warmest affection, coupled with the most absolute trust and confidence. In a thoughtless and unhappy moment, this tutor became possessed with the idea that he would break his pupil's dread of deep water by pitching him into a pool where they were accustomed to bathe together, at the deepest part. There was no actual danger, for the depth was really not great, the pool was calm, the boy could swim a little, and in an instant the tutor, a strong and skillful swimmer, was in the water himself, rendering succor and support. The lad was brought to shore safely enough, but the mischief to the mind was inflicted beyond repair. The surface of trust was obliterated beyond, and a fixed distrust in the mind of the youth was set up forever. If a skillful physiologist could have discovered the seat of trust in that youth, and could have destroyed it mechanically, he could not have inflicted a more severe injury, nor one more determinedly lifelong in its effects.

PERVERTED APTITUDES.

It falls to every mind to be influenced by its surroundings, to be affected by mental contagions, to be subjected to shocks and sudden strain, and to be affected in its health by all these influences; and now I proceed to notice

that there are other modes by which the mental health is affected, modes determined by what may well be considered as perversions and diversions from the particular aptitude for particular work of the mind. At the present period of time no subject of study whatever could be more important to us as a nation than this subject. To understand these perversions and diversions from the natural mental aptitudes it is necessary to know the mental constitution as it is divisible into its major parts: the appetites, including the passions; emotions, including the sentiments; and the reason, including the intellectual faculties; judgment, or the weighing of evidence; knowledge, or the accumulation of observed facts and wisdom, or the balanced application of knowledge of all and various kinds. These are the three mental primaries constituting the three lives of men: the animal life, the emotional life, and the intellectual life. In every man these mental lives exist, but in different degrees and in different combinations. In one the animal nature so prevails that he passes as animal; another is all emotion; a third is cold, thoughtful, hard. The members of the marked animal type are not, as a rule, of long endurance, but while they live they go through everything—through pain, through physical work, and even through drink and Bohemian fury with exceptional facility. To intellectual eminence and distinction they never rise by pure mental capacity, but they are often rendered famous by deeds of strength or animal skill, while now and then, by some *jeu d'esprit*, they gain an admiring auditory, and secure a large following of men after their own heart.

The members of the emotional type are also not of long endurance, but, keen, over earnest, and led by impulses which appeal at once to natures like their own, they light up conflagrations of controversy. As men they constantly lead with them hosts of the gentler sex, by whom they are much admired; and not infrequently they win, for a time, those successes which to colder intellects are mere passing victories, to be forgotten before they are fully realized. The members of the pure intellectual type are enduring though rarely great men. Work does not injure them either by its penalties or its pleasures; they are not rough, for they have no animal rudeness; they are not sympathetic, for they are deficient in emotional surface; but they reason well, and, judging of men and things calmly, wait for the progress of events, bring into play what powers they have with precision, at the proper season, and,—caring little whether they gain or lose, for all things are alike to them—remain simply as wise men. I sketch out here the primitive types of men as they exist now, and as they have existed ever since the first descriptions of men that can be gathered from reliable history. But there are combinations of these as there are changes of peals of bells. There are those who are of animal and emotional combination; not a desirable combination. There are they who are of animal and intellectual combination, men of tremendous power, who can fell a tree or govern a nation with equal facility; men whose animal faculties quicken and feed their intellectual, and in whom the opposites of their nature act as foils the one to the other. There are others of emotional and in-

tellectual combination, men bright and good by nature, who lend themselves to everything that makes life pleasant, who are both courted and trusted, who sympathize and philosophize; men whom every one who has the chance will invite to dinner; whom the societies and academies run after pell-mell; whom the philanthropist lie in wait for; who are the *dilettanti* of literature, art and science; and who are splendid patrons, whatever else they may be. And, once more, there are the men of equally balanced combination, who creating no enthusiasm, are looked upon with equal respect by friends and opponents; men whom every one would like to have as referee in cases of dispute, or as trustee at the crisis of making a will under urgent pressure. In drawing out these pictures of mental surfaces, I have followed Othello's advice; I have extenuated nothing nor set down aught in malice; my object being solely to indicate that among these different minds the health must needs be influenced by the external vibrations which keep the mind going, in a form and manner peculiar to each, as a mind in each case working by its own mould, by its own anatomy, under every impression from without to which it is subjected; differently in different persons even from the same impression; sometimes evenly, sometimes vehemently, and sometimes like sweet bells jangled out of tune and harsh. Let us think for a moment of the almost necessary results of ignorance on this truly vital theme. A man of a hard intellectual type sets up for a whole family of learning children and a standard of learning like that which he himself approves, and sets up what he

expects all other minds to conform to. As a result the tenderest faculties of the children—faculties, perchance, which, if they are to be utilized at all, would require to be brought out in the gentlest manner—are literally obliterated. The mind of the child is as clay in the hand of the potter. Yes? But the skillful master, he who turns out the finest work, is he who knows his clay, knows his mould, and knows where lightly and where firmly to touch, and shape, and shear. Later on in life, when youth is being sent forth on its destined career, this same error bearing on the health of the mind is perpetuated with as grievous carelessness as ever. Comparatively few youths would, I think, go wrong in the careers in which they are sent forth if their mental facility for that which they are expected to perform were correctly gauged. A man who is color-blind is, by necessity, prohibited from taking charge of railway signals; yet over and over again we see youths whose emotional natures are quite as strong a bar to some calling or profession—such a profession as mine, for instance—forced into the selected profession, to endure a martyrdom for life, with not one moment of chance for distinction, or for anything more than the qualified performance of duties which are a daily cross and a daily sorrow. Such men take sometimes to what are called bad courses, become intemperate and forfeit confidence; toward whom let pardon have a fair place, since the primary error is not their own. These mistakes which mature men and women inflict on the young are bad, but they are not worse than mistakes which the mature often inflict on their

own maturity. Men knowing nothing of their own mental constitution, and thinking nothing of their own mental health, throw themselves into mental strifes and contentions for which they are as little mentally fitted as they are physically fitted to remove mountains. This man, with his animal life worn out by professional or business labors, determines to close his honorable career by undertaking senatorial duties which call for mental animal work of giant power. Another, whose emotional mind—always the master of his intellectual part—has led him constantly into serious scrapes and difficulties, permits himself to enter into contests in which the whole argument turns on sentiment, and breaks himself to pieces in the struggle. The subject here is so fruitful of suggestion and of illustration, I fear to follow it further, lest I be forced thereby to leave out some other matters bearing on the health of the mind which could not properly be left untouched. Suffice it now, therefore, to say that the study of mental aptitudes becomes a part of the study of every sanitary scholar. To the man who is a sanitarian it is of first rank; to the woman who would make good health the choicest garment of good life, it is beyond compare, because in the early days of life the diagnosis of the human mind is so distinctly her task. The man, the father, brings the food, the clay; the woman, the mother, sees how the clay is moulded, and moulds it anew.

MENTAL OVERCHARGE.

If too sudden and extreme an impression be made on the mind, there is commonly a start or a convulsive movement. That is overcharge, the

surplus of vibration cast from the mental into the muscular organization. The motion which looks so alarming is the relief. If there were not that means of relief the vessels of the brain might break, or the heart itself might burst. Sometimes when these parts are weakened they do give way, under shock, and "stroke" or "syncope" brings the life to a close. These are the major overcharges of the mind declared visibly through the body. But, short of these, the health of the mind is too often affected by the effect of minor overcharge, arising, not from sudden vehement shocks, but from little shocks leading to long-continued pressures, which kill the mind in parts or centers or altogether. By this latter process of overcharge the health of the mind is injured in our day to an extent that probably has never before been reached in our national history. Our schools at this moment are engines of unprecedented power and skill for effecting mental overcharge and all its accompanying evils. Our modes of life in periods of later life, our pressures of business, our struggles for wealth and notoriety, with health and true fame both at a discount, our flying visits hither and thither over the whole surface of the earth without exploring it, our cravings for mental stimulations of every kind and quality, our resolute desire to try once more to scale heaven that we may tear aside the veil that conceals the infinite—these overcharges of mind are momentous in the present crisis of the civilized world. If some of the grosser appetites are reduced, the emotions are more wildly aflame and the reason more at bay. The passions are rising in mighty waves, and the

brain is becoming like a troubled sea. Love staggers before hate, jealousy outrides fear, and assurance in equality of mind is so strongly assertive that at the rate we are now going no man will have a chance ere long of being remembered for what he has achieved, save the man who has stunned the world with the record of the most hideous possible crime. Yet, with it all, there is the gleam of hope that, with knowledge so advanced as it is, there will be developed a more reasonable desire to temper knowledge with wisdom, and to bring the passions, now so wild and furious, into subjection to reason. It is towards methods of teaching that shall lead in the direction of reform in all conditions which affect the health of the mind, that the study of the mind becomes now a part of the duty of the true sanitary scholar. For let me observe that to neglect the mind is also to neglect the body itself. There has been no opportunity in this address to refer to the injuries of a physical kind which follow in the body from mental insalubrity. Under our sanitary skill great plagues are being swept away, and by that sweeping our death rates are coming down to a figure that is a marvel to the world at large. "Ah!" says the enthusiast, "see you the prophecy is at hand, there shall no more be an infant of days nor an old man that has not filled his days;" for note how the young are ceasing to die, and how the old are continuing to live. It is true, and yet the millennium is not in sight. "For observe," say those of us who are on the watch-towers, "observe how diseases of nervous origin—in other words, of mental origin, diseases like diabetes and

cancer, and some forms of insanity, are on the increase! Observe, too, how the social storms, always so mortal when they set in, are showing their premonitory signs in every quarter. There is less death; there is more life. Is there less disease of the mind as well as of the body?" That is the question.

HASTINGS-ST. LEONARDS-ON-THE-SEA.

And where shall the question be best tried? What is the proper time, what the proper place for putting it to the test? What time better than the present, when health is a popular theme; what place so good as that in which health is most advanced, some place famous for health and its resources?

* * * * * Let Hastings-St. Leonards-on-the-Sea, already so famous as an abode and center of health, hold and keep the lead, not only in the matter of bodily, but of mental salubrity. Suppose Hastings-St. Leonards chose to continue in that course, and that we could see her in a hundred years to come in all her acquired strength and purity and beauty? The transformation would even be greater than the present from that town of one hundred years ago which Mr. Cole, in his excellent little work written for this Congress, tells us Dr. Matthew Baillie discovered as the site of a resort for those who required for health not merely the open breezes of the sea, but beauty of scenery, and a climate so adaptable to season, that different climates are included in one locality. In that transformation we should see a town of exquisite beauty, open in every part, and pure as the breezes from the surface of its ocean. Physically, all would be beautiful, the simplest, poorest home, the home of

cleanliness and good taste and good bodily health. And mentally, how marked would be the change! Every one of those fine and noble arts which, in their best form, exalt a nation, would be of the truest and healthiest. What we now call chaste and good, how much more refined it would be! A drama, in which the history of the world, past and present, would be represented in such form that to every child it would be a school of mental health; academies of painting and sculpture equally instructive and equally clear; academies for ordinary teaching, in which learning and happiness properly combined would save the young from all the hazardous and shameless shocks of competition and cram which are at this moment so great a peril, shame, and disgrace; amusements which would bring out both bodily and mental powers, and in which members of both sexes could alike take part with like benefit; and a literature so chastened, however powerful it might be, that the author who dared to present a work less spotless than the surface on which his thoughts and words were impressed would not be permitted entrance into the school, the house, or the library. This, with much more of mental and physical health, is what Hastings-St. Leonards may, and I believe will become, as time wears on, as the thoughts of men widen, and the value of health increases in estimation. But whether the grand progress be greatest in this place or in some other, it is our duty to be the heralds of it, and do our best, our utmost best, to add to days of life:

"The richest bounties of indulgent Heaven,
Truth, goodness, honor, harmony, and love."

Sanitarian.

Salt Lake Sanitarian

A MONTHLY JOURNAL OF MEDICINE AND SURGERY,

Devoted to the prevention and cure of diseases and injuries, and the promulgation of the laws of health and life.

M. B. SHIPP, M. D., EDITOR.

SALT LAKE CITY, AUGUST, 1889.

EDITORIAL.

SUNSTROKE.

The present season so far is proving to be one of unusual heat. The protracted elevated temperature is more than likely to produce a great amount of sickness, especially of the summer disorders. With such intense heat the liability to sunstroke is increased. The shaded sidewalks so prevalent in our cities here in the mountains are a great protection to the pedestrian. However, it is not the direct rays of the sun only that effect people, but the high temperature of the atmosphere often prostrates patients.

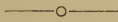
The condition that the individual is in has much to do with his powers to resist the influences of extreme heat. It is an important fact to note that the condition of motion or rest plays a prominent role. An individual is not so liable to the attack of sunstroke if he be in motion, as walking, than if he were in a state of rest, as sitting or lying exposed to the heat of the sun. This has been demonstrated by confining animals such as dogs where they could not move and then subjecting them to a moderate heat which killed them, whereas if they were given their freedom to move about they could withstand a much greater heat

and suffer no ill effects. Children that have lain down in the sun and gone to sleep have been overpowered by the heat and died because the rays of the sun rested on the same part of the body for a length of time. Yet children could be out in the sun where it was even much hotter, but they were moving and playing about so that the sun did not shine continuously on any one part of the body and they did not feel any inconvenience. When you see a child asleep in the sun on a hot day you may know it is exposed to danger.

The process of sweating relieves the body from the effects of heat. If the harvester handling his grain in the blazing hot sun did not keep his shirt-sleeves wet by his profuse perspiration his danger would be greatly augmented by his exposure to the great heat.

The heat stroke does not come on suddenly as some may think, but there are premonitory symptoms or fore-warnings. Usually a person feels the intense heat in time to escape or change his position. Workmen upon the tops of houses exposed to the intense rays of the sun are in danger if they keep in one position too long. In a hot damp atmosphere we suffer more from heat than on a clear day of the same temperature because the evaporation of the sweat of the skin does not take place so readily when the air is moist as when it is dry. The chief condition to be met in an attack of sunstroke is the elevated temperature of the blood. The first thing to do is to cool off the patient. To accomplish this object the clothes should be removed and a light sheet or cover thrown over the body. Having laid the patient on the floor or convenient

place, sprinkle cold water over him. An ordinary watering pot would be a convenient article to use. If the head is very hot and the feet cold apply hot bricks or irons to the feet, and cold cloths or ice compresses to the head. If the temperature keeps up it will be necessary to renew the cold applications. Ice bags applied to the back are excellent. After a reduction of temperature has been accomplished it may be necessary to administer some light stimulant or brandy in light doses. Parties who have suffered from this cause should be careful to avoid exposure to heat.



MORAL TRAINING.

We have devoted a large space in this present number to an important article on the "Health of the Mind." As a rule we desire to avoid too long articles for fear of tediousness to our readers. However, we meet sometimes discussions of very interesting subjects that we think would be very profitable to the general reader, and as it is our policy to have each number of the *SANITARIAN* complete, with no continued articles, we are under the necessity of printing longer pieces than we otherwise would do. The subject of the mind is one that should command our earnest attention, it has so much to do with the health of the body. Besides, the future usefulness of the individual depends almost entirely upon the moral rectitude and healthy atmosphere that surround the emotions. We may educate our children—the memory may be developed to an astonishing degree, or other faculties of the brain may be strengthened

by a process of discipline and drill, but if the "sentiments of the heart" are perverted or left to run wild, dominated by the grosser passions of the animal nature of man, we cannot hope that the life of such an individual will be crown'd with those accomplishments and labors as will have made the world better and wiser for his having lived in it. We must not wait till habits have taken root in the mind before we turn our attention to the cultivation of the moral attributes. It is the early impression that leaves the lasting trace. The avenues or sources that lead to the intellect must be traversed by wholesome elements that will impart a healthy impetus to the thoughts of the brain. If we become absorbed in the grosser realities of life and give no heed to the conditions and surroundings of our children—if we have no care of what the matters are that awaken thoughts and feelings in the hearts of the young that have been entrusted to our keeping, the dangers are that the prevalence of the untrue and contaminating will impregnate their souls and bring forth the fruits of dwarfed intellects. If the child ascends the ladder of success we must place before it good influences. Its daily life must be stimulated by that pabulum drawn from nature's storehouse so replete with the attributes of all that makes life desirable.

In rearing domestic animals for food the character of the meat depends largely upon the kind of diet we place them upon. In the rearing of carp the flavor of the fish is modified by the character of the water they live in. It may not occur to the minds of some that the powers of the brain, the force of the intellect, the

character of the individual even to a greater extent depend upon the kind of food that is supplied. If the thoughts and impulses dwell in muddy waters or bask in a vitiated atmosphere, you may be sure you will have a vitiated character. You may expect no healthy mind that feeds upon unhealthy food. The character of the thoughts if of evil tendency demoralize to that extent that the debasing results crop out in the daily life. It is a pitiable fact that the health and pleasure resorts in our midst are so saturated with such debasing influences. The eye and ear, those great thoroughfares to the mind, are so offended by such sights and sounds as are seen and heard, that when the young folks get back home the good their physical natures may have received by the refreshing bath, exhilarating breeze and the cheerful ride is entirely overbalanced by the pernicious feeding that has been given to their moral natures. Familiar contact deadens the sensibilities to the hideousness that greets them. The pleasures of the young must be tinted with the hues of the beautiful, chaste and pure. Their lives must be fortified by moral growth to enable them to withstand the powers of temptation.



TO CLEAN LAMP BURNERS.—To clean lamp burners, take a piece of sal soda the size of a walnut, put into a quart of soft water, put your lamp burner in it (an old tomato can is good enough), set it on the stove; after boiling for five minutes remove the burner, and when put back on the lamp will be as good as new. All the carbon on the old burners should be removed once every month.

NOTES ON ENTERO-COLITIS IN INFANTS: ITS CAUSES AND TREATMENT.

BY JOHN LORD BABCOCK, M. D.,

Assistant to the chair of children's diseases, St. Louis Polyclinic.

When the genial sun of springtime opens the buds and greens the lawns, there always appear two concurrent phenomena in the medical journals. One of these is the article by the doctor who knows a great deal about cholera infantum, and the other is the advertisement of the patented baby-food man who knows a great deal more about it. Recognizing this fact, and in obedience to the unalterable law of this recurrence, I beg to offer the following notes, not as embodying a single idea that is new, but merely for the purpose of placing before you the general results of the study of a large amount of clinical material bearing upon an important subject.

The green and fetid diaper, like "the poor," we have with us always, and it is to this humble garment—which a friend of mine asserts to be the modest rudiment from which have been developed all of the beauties of the modern bustle—that we must direct our attention. * * *

After a prolonged and careful study of this question from the stand-point of practice, we have come to the conclusion that the milk-and-cream food advocated by Dr. Arthur Meigs, of Philadelphia; Dr. Joseph Winters, of New York, and others, is, beyond any comparison, the best artificial food for infants. Its composition for an infant of six months is as follows: Milk, 3 parts; cream, 1 part; lime-water, 1

part; boiled water, 2 parts; and sugar of milk, 1 part. Solution of bicarbonate of soda, three grains to the ounce, may be substituted for the lime-water in case the baby is constipated. This food meets the general indication of resemblance to mother's milk in specific gravity, richness in fats, alkalinity, and sweetness.

The "hardness of the curd of cow's milk" is largely a bugbear that is kept before the profession by the public-spirited advertisers of prepared foods, who make such heroic efforts to defend our little patients from the poisonous curd of the milk of the malevolent cow. A stomach that has any physiological activities left can digest, with certainty, small amounts of this food. When you have to do with a depraved organ, modify the food by increasing the proportion of cream and lime-water, and give it in small, often-repeated doses. You are then not at the mercy of compounds of an unknown nature, that have been on druggists' shelves for an unknown time, and contain an unknown variety and number of micro-organisms or products of decomposition. You have the matter of feeding in your own hands, and experience with this milk-and-cream food will soon teach you to modify it to suit individual cases.

Anyone can now sterilize and preserve milk by the familiar and simple process of steaming. It is only necessary to have a deep kettle with a perforated tin false bottom, a tight-fitting cover, and a flat-iron to place on this cover. Milk in cotton-plugged bottles, each containing enough for one feeding only, can be steamed in such a simple apparatus for twenty-five minutes, and will remain sweet and

good until used. As is the case with all foods, this milk-and-cream preparation occasionally does not agree with a child, but in our experience it has failed less often than any other. In four cases condensed milk, which is often a very good temporary food—though I think a bad one for prolonged use—did well. Three others took very kindly to malted milk, and two others seemed to have a selective affinity to the dried milk and dextrine food. Inasmuch as milk-sugar is rather expensive, one-fourth the amount of cane-sugar may be substituted in cases of healthy children over six months of age. But with all children younger than that, and with older ones who are suffering from bowel or stomach disturbances, the milk-sugar will be found decidedly preferable. * * *

Considered from a clinical standpoint, infantile diarrhœas may be divided into four classes: First, the simple diarrhœa, that which is caused by intestinal irritation only; second, the inflammatory diarrhœa, due to enterocolitis, or, more rarely, either enteritis or colitis alone; third, the colliquative diarrhœa of cholera infantum; and fourth, the symptomatic diarrhœa which occurs with varying degrees of severity in almost all acute diseases, as well as in the minor ailments of childhood. Simple diarrhœa is due to the presence in the intestine of irritation in the form of fermenting or indigestible material. Its diagnosis and treatment present no difficulty. The catharsis is a conservative action on the part of nature, for the purpose of expelling from the economy useless or dangerous material. It is characterized by a discharge which differs from the normal in fluidity and fre-

quency, and contains some partially digested matters, together with more or less flatus.

It is usually brought to a termination by a few doses of "rhubarb and soda." I cannot speak in too high praise of this simple mixture of our grandfathers. The rhubarb, as is well known, combines tonic and astringent as well as laxative principles, the former asserting itself after the latter has had its effect, and for this reason the rhubarb is the remedy *par excellence* for this condition, in combination with the alkaline soda and a carminative, usually cinnamon, or, perhaps better, a few drops of an alcoholic solution of menthol. By gently stimulating the action of the bowels it aids nature in relieving itself of the cause of the trouble and does not leave the intestines in a relaxed condition. The well-known tendency of neurotic children, as well as of all very young infants, to suffer from convulsions directly after the sudden checking of a diarrhoea should always be borne in mind. It is unwise as well as unnecessary to check this form of diarrhoea at once. A dose of bismuth or paregoric would simply shut up in the bowels a mass of fermenting material much better out of them. In four of the cases which form the basis of this paper a simple diarrhoea was changed into a severe type of enteritis by "home treatment" consisting of paregoric, or what amounts to the same thing, soothing syrup."

The victim of entero-colitis presents a very different picture. Here we have the infant suffering acutely from abdominal pains, the belly is tumid and tender. The child's appetite is lost, it loses flesh and strength progres-

sively, and has from five to twenty movements of the bowels a day. The faecal matter may be from a pale greenish to a grass-green color, or more or less blood-stained. It usually has a very foul odor. In severe cases which assume the dysenteric type and which are pathologically very similar to dysentery, the discharges consist largely of a watery, bloody mucus. In this disease there is always some rise of temperature, particularly in its earlier stages. The progressive emaciation becomes very marked when the disease assumes a chronic form. I am convinced that the cause of very many of these cases is the withholding of water from the thirsty infant. My attention was first directed to this point several years ago by Dr. Clarke, of Oswego, N. Y., and my experience with sick children has confirmed his views. Of course decomposing as well as improper foods, together with foul air, play an important part in its causation; but the importance of the deprivation of water as a cause has been too often overlooked. When a child drinks milk or any fluid food because it is thirsty, and not because it is hungry, it inevitably drinks too much. Its digestive apparatus is flooded with milk, which of course curdles rapidly, and the stomach has more than it can attend to. The result is simple and prompt. There is felt in that organ a greater or lesser amount of sour fermenting stuff, which makes the baby cross and feverish and thirsty. Its thirst is again quenched—not with cool water—but with another bottle of milk, which it takes eagerly enough, but which simply adds fuel to the fire and makes a bad matter worse. The intestines are soon

filled with this fermenting mass, and the result is a simple diarrhoea.

The milk is copiously supplied to the child, however, and the simple diarrhoea soon runs into an enterocolitis, and perhaps the child dies from exhaustion or in a convulsion, while the parents, and possibly the doctor too, talk about a mysterious visitation of cholera infantum—most convenient and most misused of terms. I have made it routine practice to tell mothers to give their children all the water they want, and particularly in hot weather to always give the baby a drink of water before feeding it. Then the child will take milk to satisfy its hunger only, and will not drink too much of it. Having already taxed your patience with my remarks on feeding and the causes of enterocolitis, which, however, here as in all children's diseases, are by far the more important matter, my remarks on treatment will be quite brief, and in this connection allow me to say that my experience has been strongly confirmatory of the statements made by our colleague, Dr. Hendrix, in his paper read before this Society in June of last year, in which he spoke highly of the value of water in the treatment of diarrhoea in infants. The child that has a profuse diarrhoea absolutely needs water. There is an actual lessening of the total amount of fluids in the body caused by the serous flow from the bowel. Water never makes a diarrhoea worse. On the contrary, by flushing the kidneys and by furnishing fluid for the general interstitial circulation it lessens the morbid process by stimulating normal tissue-metamorphosis and thus increases the general vitality of the patient. In

regard to each case it is necessary to find out first and chiefly about the diet of the child in answer to the question, "What?" "How often?" and "How much?" Our one hundred and eight cases of enterocolitis presented about this history: First, a harmful diet or deprivation of water, or both, then a simple diarrhoea occurred, followed rapidly by the inflammatory diarrhoea of the disease.

Their treatment may be divided into three parts: First, the regulation of food and drink; second, the disinfecting treatment, including sometimes the high injection per rectum of large amounts of sterilized water; third, the opium and astringent treatment.

The regulation of food consisted usually in prescribing small amounts of the milk-and-cream food referred to above, with plenty of water. Small doses of calomel at short intervals for two days will often change the character of a foul, green, watery discharge to a much more normal color and consistence, and put your patients in a condition in which astringents may be given. Rhubarb and all resin-bearing purgatives must be carefully avoided when any inflammation exists. Dysenteric conditions are best treated by frequent small doses of magnesium sulphate. The rule of action in these cases, as in all the diseases of children, must be to give the smallest dose that will do the work, and the indication is to give the stomach and bowels rest by removing from them the irritation caused by the presence of fermenting matters and the products of decomposition and inflammation. To accomplish this we must, as much as possible, disinfect the contents of the alimentary canal, as well as remove

them. Thanks to some of the recent additions to our list of drugs, it seems now to be possible to do this in many cases. To that end the diet as above is ordered, or, if the child is vomiting severely, no food at all is allowed for two days, and calomel, gr. one-eighth to one-tenth (this for a child of six months) given every hour until five doses are given, and these doses repeated next day, using stimulants as indicated. On the third day, if the green diarrhoea continues, salol, gr. 3 to gr. 5, may be given three times a day, laudanum gr. one-fourth being added if severe pain exists. We have employed this treatment in seventeen cases, nine of which recovered rapidly, five were lost track of, and three did not do well. If the seat of the trouble is in the large intestine, the action of the salol does not reach it, and in these cases large enemata of sterilized, rather hot, water were given. A large, soft-rubber catheter was used, and it was gently inserted, injecting the fluid meanwhile, for its whole length. In two of these cases the improvement was very marked. The third case, which had been poisoned with brandy by its mother, died the day after the high injection was practiced, although the enema relieved it of its colicky pain and tenesmus. If this general line of treatment is followed, you will be pleased to find, in many quite severe cases, that after the small doses of calomel have been taken for two days, if the directions as to food and drink are followed, the entero-colitis has about disappeared, under which conditions we have remaining a case of simple diarrhoea, which needs a few doses of the rhubarb and soda, to each of which from one-half to a drop

of the tincture of nux vomica has been added, to effect the cure.

Bismuth or chalk mixture is very useful when the diarrhoea shows a tendency to become chronic, and should both be used in large doses in order to produce positive effects. * * *

Medical Record.

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WE are sorry to learn, says an exchange, that a German chemist has succeeded in making a first-rate brandy out of sawdust. We are a friend of the temperance movement, and we want it to succeed; but what chance will it have when a man can take a rip saw and go out and get drunk with a fence rail? What is the use of a prohibitory liquor law if a man is able to make brandy smashes out of the shingles on his roof, or if he can get delirium tremens by drinking the legs of his kitchen chairs? You may shut an inebriate out of a gin shop and keep him away from taverns, but if he can become uproarious on boiled sawdust and dessicated window sills, any effort must necessarily be a failure.

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A NEW PREVENTIVE OF FLIES. — It is stated that oil of bayberries (from the fruit of *Laurus nobilis* L.) is extensively used in Switzerland by butchers to keep their shops free from flies, and that after a coat of this oil has been applied to the walls, none of the troublesome pests venture to put in an appearance. This remedy has also been tried and found effectual in the south of France in preserving gilt frames, chandeliers, etc., from becoming soiled. It is even remarked that flies soon avoid the rooms where this application has been employed.

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THE CARE OF THE SICK.

BY THE EDITOR.

Heretofore we have discussed the different kinds of baths and modes of applying water in the care of the sick in a general way. We desire now to point out some special applications in particular cases. *Habitual constipation* is a condition that is often met with by the busy practitioner. To resort to purgative medicines for relief, as is the custom usually in domestic practice, affords but small satisfaction for a permanent cure. Many persons would find their trouble overcome by drinking a glass of cold water before breakfast in connection with a diet rich in fruits and succulent vegetables.

In the throat affections, such as swollen and inflamed tonsils the outward application of cold water is good. The manner of applying it is as follows: A small towel or napkin is wrung out in cold or ice-water and wrapped snugly around the neck, over this is wrapped a dry cloth or towel which keeps the patient's clothing from getting wet and prevents the rapid evaporation. In spasmodic croup iced water applied in this way will often produce excellent results by relieving the distressed breathing. Sometimes hot applications are more efficacious when the cloth to be applied to the neck may be wrung out of water as hot as it can be borne.

It is in the treatment of fevers by

cold baths that we obtain some of the best results. In some of the German hospitals where the high temperature of patients, particularly in typhoid fever, is controlled by the cold bath, they report the practice very successful. There are certain appliances necessary to treat very sick patients by the cold water plan. These are only had in well appointed hospitals and can scarcely be utilized in private or domestic practice. However, it will not be uninteresting to know something of the mode in which cold water is used in these hospitals. Professor Bartholow says:

"As practiced according to the method of Ziemssen, it is grateful to the patient, produces no shock and exerts a powerful influence over the temperature. The fever patient is put into a bath about the normal temperature of the body (98° Fahr.) and the water is cooled by the addition of ice, to 80° Fahr., to 60° Fahr., or even to 40° Fahr., according to the effect produced on the temperature, which, for this purpose, should be taken in the rectum. When a positive reduction of the fever-heat has occurred, at the expiration of five minutes to half an hour usually, or longer if necessary, the patient should be wiped dry, placed in bed and covered with blankets. The bath may be used according to the nature of the case from two to six times each day but less frequently if the duration be longer than half an

hour. The appliances for administering baths to fever patients are: A strong sheet for lifting the patient from the bed into the bath-tub; a bath-tub provided with an exit-pipe for drawing off the surplus water; a thermometer for ascertaining the temperature of the bath and a clinical thermometer for noting the variations of temperature of the patient. Hospitals should be provided with such arrangements as have been made at the London hospital for the use of baths in fever. These consist of a small ward with two beds; a bath-tub supplied with hot and cold water; a tank with which the cold water pipe communicates, in which ice may be put if necessary; and a large waste-pipe for disposing quickly of the surplus water.

In the absence of suitable bath appliances, the temperature of fever patients may be reduced by simpler methods. Iced-water may be injected into the rectum frequently; cloths dipped in iced-water may be applied to the trunk and ice bags may be put to the spine. More suitable than these methods is the wet-packing. Although the wet-packing is not so effective as the bath, it is a very powerful means of reducing fever-heat, and it has the merit of simplicity of application, so that in every household it may be used if necessary. The patient may be put into the wet-pack several times each day, according to the state of the temperature and may remain in it from five minutes to an hour.

If, after the application of water by any of the modes above mentioned, the circulation becomes feeble, the extremities cold and the lips blue, stimulants should be administered and bot-

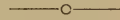
tles of hot water applied to the feet. The good effects of baths are these: the temperature declines, the pulse falls and becomes soft and compressible. The skin grows moist and the patient feels refreshed. The repetition of the bath or of the application of cold water will be determined by the rise of temperature and of the pulse.

The most conspicuous triumphs of the cold water treatment perhaps has been in those conditions where a very high temperature existed, ranging as high as 105° Fahr. to 112° Fahr. It is considered by the profession that a temperature above 107° Fahr. is almost necessarily a fatal sign. This high temperature occurs sometimes in *acute rheumatism*, *delirium tremens*, *fevers*, etc. It is most difficult to subdue, but if not soon lowered will so damage the blood as to speedily cause death. It is in such cases that the cold and ice-water applications accomplish such marvelous results. The temperature of the bath, commencing with 96° Fahr., should be rapidly lowered to about 60° Fahr. by the addition of ice. It is sometimes necessary to keep the patient in the bath two or three hours. There is no rule that can be given, but must be governed by the state of the patient, his pulse, breathing and temperature. A case in point came under our observation not long since. It was a case of typhoid, a strong, robust man. He was literally burning up with fever. A good man, and I believe one that made pretensions to "being a doctor," was attending the case. His treatment was hot bran poultices and "such like" to the chest and bowels, in fact he was simply "roasting alive" his patient already rapidly burning

up. The symptoms became so threatening, the fever raging, the delirium so wild and violent that the family became alarmed and sent for a doctor. Ice took the place of fire and the "dying man was snatched from the brink." Before the dawn of the morn the temperature lowered, the pulse slowed, the delirium subsided and the poor man started on a slow convalescence entirely attributed to the external ice-cold applications. Had the hot applications been continued the blood would soon have become so vitiated "scorched" that it would have ceased to perform its function and death would have relieved the patient of his sufferings. Astonishing what a few lumps of ice can do sometimes if judiciously applied. In sunstroke when the head is hot and the skin is hot with a strong pulse, application of ice to the head and rubbing the surface with ice is good practice. In some forms of headache where there is an influx of blood to the head the application of ice-cold water affords great relief.

In the convulsions of children, to put them in a warm bath with cold to the head gives great benefit. A most excellent practice or habit for students, said the great surgeon S. D. Gross, is on rising in the morning to rub the body all over with a towel wrung out of cold water, followed by vigorous friction with a dry towel for a few moments. It cleanses the skin and imparts to it a healthy glow. The "towel bath" gives the muscles good exercise. The work wants to be attended to vigorously. Many delicate females depending upon tonics and medicines to give them vitality if they would substitute this practice

would be astonished at the improvement. The value of rubbing the body off with a wet towel followed by dry friction night and morning can hardly be estimated. Do not use soap but put a little washing soda in the water. Men who have heavy responsibilities resting upon them and as a consequence are sorely overworked would find the practice, faithfully carried out, to strengthen their powers, revivify their waning strength and prolong their lives in their arduous struggles. Cold water utilized judiciously is better than medicine.



THE RELATION OF DRINKING-WATER TO SOME INFECTIOUS DISEASES.

BY THEOBALD SMITH, M. D.,
Washington, D. C.

In discussing problems of public health, the student of hygiene may have to face two classes of readers. One class consists of those who are timid and nervous about most questions concerning health, and who are easily alarmed by any disclosures which reveal possible dangers in their habits of life and environment. Another class, representing the other extreme, encouraged by the fact that nothing serious has happened thus far under prevailing conditions, display an assurance amounting to indifference and even gross negligence. The investigator is looked upon by such as an alarmist, who substitutes theory for experience, and who sounds the tocsin at the approach of spectres, the creatures of his own imagination. But the advances made and the means suggested for the

protection of human life should not be looked at from either of these stand-points. They can, at best, proceed but slowly, and if they succeed in saving only a few lives each year from premature death, the compensation for labor and outlay is ample enough. It is from this middle point of view that the following remarks are made.

The immense but still infantile strides which have been made within the last eight or ten years in the field of infectious or communicable diseases have demonstrated that a considerable number of such maladies are directly due to the invasion of the body by specific bacteria. Quite naturally it became necessary to examine our surroundings in order to learn whether any of these micro-parasites may be found among the numberless harmless bacteria that live in the water and the soil, on the surface of the body, in the mouth and the digestive tract of man and animals. In general the results of numerous patient unbiased observations have thus far proved negative. Disease germs do not exist in our environment in numbers sufficient to be detected by the methods of bacteriological research. The few that are constantly present in the soil, and which are presumably the agents producing certain forms of suppuration, septicæmia, and tetanus, are little to be feared, excepting by the surgeon during operations, judging from the comparative infrequency of these diseases. On the other hand, typhoid-fever germs have been found a number of times, within recent years, by carefully searching suspected drinking water *during and immediately after epidemics*. Koch found during his researches in Calcutta, in 1884, cholera spirilla in the water

of a tank which was, at that time, the centre of a localized cholera epidemic.

The scrupulous care which we exercise in the selection and preparation of our food contrasts strongly with the indifference which is exhibited with regard to the water we drink. Many of our large cities are supplied with river water which not only represents mere surface drainage, but also the diluted sewage of large communities and the refuse of manufactories. We do not hesitate to consume this in its rawest state, though we have learned to apply heat to most other foods, not merely as a preliminary aid to digestion, but also to destroy any deleterious matter which may be attached to or incorporated with them. It has now become generally accepted among authorities in hygiene, that water containing a large number of bacteria should not be used as a beverage unless previously boiled or filtered. The bacteria are evidence that the water represents surface drainage, or filters through a very porous soil more or less impregnated with organic matter and living bacteria. These, it is now known, live in the largest numbers near the surface of the soil. At a depth of from nine to twelve feet they are either entirely absent or present in very small numbers.

We must assume, then, that water which in its flow over or through the soil becomes loaded with a large number of organisms *may*, under certain circumstances, gather up disease germs and thus *act as a vehicle for a short time*, especially during epidemics. The disease germs may be widely distributed before they perish. The maladies which are now known to be chiefly transmitted in this way are Asiatic cholera, typhoid-fever and dysenteric

affections. The localization of these diseases in the digestive tract makes it extremely probable, even if bacteriological evidence were wanting, that the specific bacteria are introduced by way of the mouth with food and drink. In Asiatic cholera the spirilla, now generally accepted as the cause, are found in the intestines only. In typhoid-fever they are not only present in the intestines, but penetrate thence into the internal organs, notably the spleen. Dysenteric diseases have not yet been thoroughly studied, so that positive facts are not at hand, but they also are, without doubt, caused by micro-organisms introduced with the food and drink. Of these, cholera need not claim our attention, since it is to be hoped that it will not gain a foothold in our own country. Whatever shall be said in this article concerning the relation of drinking-water to disease, will apply with even greater force to this malady should it appear in our midst.

Typhoid-fever, being endemic over the greater part of the civilized world, has received considerable attention of late. The specific microbe (bacillus) was first distinctly recognized in 1882, and its peculiar characters and constant presence in the body during the disease confirmed by a host of observers since that date. It is transmitted very probably in the following way: The stools of patients, which contain the specific bacilli, are thrown upon the soil, whence the rain washes them into streams, which serve as sources of drinking water for communities farther down, or they are thrown into vaults, whence they may contaminate wells, either by filtering through a very porous soil, or else by being

carried through communicating fissures. The proximity of cesspools to wells and cisterns, and the ease with which surface water may find its way into the latter, are facts too frequently observed in small towns and villages to need any comment.

Numerous experiments have been made to determine the length of time during which typhoid bacilli may live in water. This is a very important problem, for we need to know how long these microbes may remain alive after the soil or water has been infected. Such experiments have shown that typhoid and cholera bacteria do not increase in number in drinking water of average quality. Not only is the temperature too low, but the quantity of available organic matter present is below the minimum limit at which multiplication begins. Moreover there is a gradual destruction going on which finally rids the water of its infectious elements. Experiments have shown that typhoid bacilli may remain alive a month, perhaps somewhat longer. Water may therefore become the means of transmitting typhoid bacilli from one person to another, but this capacity is limited, and future observations must be invoked to determine how long it may last, and whether the period assigned by laboratory experiments be correct.

* * * * *

During the past two years several localized epidemics in France have been carefully studied and reported by the *comité consultatif d'hygiène publique*. I select the two following as of considerable interest. Of 24 persons who had come from Paris and Versailles to spend the summer of 1886 at Pierrefonds, 20 were attacked with typhoid.

One of the three houses occupied by them had been a focus of this disease in the past, for it had appeared five times, usually in August and September, between the years 1874 and 1883. The investigation brought out the fact that a leaky cesspool, which also receives rain water from the roofs, is directly in the path of the ground water as it flows from the hills on its way to feed the well which supplies the houses with water, and farther on to join a small stream. The great porosity of the superficial layers of the soil may have permitted the microbes of typhoid-fever to be carried from the cesspool to the well 20 metres away. At any rate the specific bacilli were found in the well in October, the disease having appeared at the end of August and continuing during September. Another very formidable epidemic appeared in Clermont-Ferrand, from September to December, 1886. Over 250 persons were attacked. During the investigation the important fact was revealed that several families in the infected district, whose members drank either boiled or mineral water, remained well. A careful examination of the water-supply showed that there was every opportunity afforded for the contamination of the source at another village, which was located some distance up the stream furnishing the water. The public lavoir, or place for washing clothes, was a grotto only ten feet from the mouth of the conduit. This, which was defective in several places, passed the lavoir at a distance of only five feet. A few cases of typhoid had appeared in this village several weeks before the outbreak of the epidemic at Clermont. The chemical analysis

of the water indicated fecal contamination. The specific bacilli are reported to have been found in the reservoir of one of the houses at Clermont invaded by the disease.

Epidemics like the foregoing have been frequently observed, and cases could be cited *ad libitum*. No doubt one or more recur to the mind of every experienced physician. The severe epidemic at Plymouth, Pa., which occurred several years ago, needs only to be mentioned here. It is true that in all such investigations there is still much to be desired to make the demonstration absolute. When evidence, however, is cumulative and invariably points in one direction, its warning should be heeded. In our own country all localized epidemics should be studied with reference to the topography and geology of the water-supply and other possible factors. Bacteriological examinations should be made in all cases and with the utmost care, for there is no branch of hygiene in which hasty conclusions, based on insufficient evidence or faulty methods and want of skill, are more likely to go utterly wrong than in bacteriology.

If the water we drink may become a prominent factor in the dissemination of typhoid-fever when contaminated with the bacteria of that disease, we must not overlook our ice supply. Dr. Prudden has shown that typhoid bacilli may resist continuous freezing for several months, and that, in general, bad water yields bad ice. An Italian observer states that 90 per cent. of all bacteria in water are destroyed by freezing, the remainder live in the ice till summer. We must not forget that the milk we drink needs atten-

tion. The water used in cleansing the receptacles may at any moment become contaminated from cases of typhoid. When we bear in mind that typhoid bacilli multiply very rapidly in milk at a summer temperature, we will realize the importance of knowing whether the milk-supply of our large cities is subject to any careful sanitary inspection or not.

Every summer there is a vast emigration from the densely-populated centers to the open country. Here there is apt to be much carelessness and indifference in sanitary matters. A vague notion seems to take hold of the traveler and the summer boarder that the country is safe, and that pure air is an antidote for all illness. Yet this migration very frequently carries the same diseases that threaten us in the crowded cities into the country where the general unsanitary conditions are often more favorable to their dissemination than in the city. In all cases it is best not to drink any water the source of which we do not know or have not inspected, unless boiled. Nor should we rely upon so-called filtered water, as most of the filters in the market are not to be trusted. The same rule applies in traveling. A recent collection of medical "don'ts" suggests that we should not forget our drinking cups. Why not include what we drink as of more importance?

At the last International Congress of Hygiene and Demography held at Vienna in September of the past year, the relation which drinking-water bears to cholera and typhoid was quite thoroughly discussed. There was a general agreement as to the propagation of typhoid-fever by drinking-water, although there were not want-

ing voices who objected to too dogmatic assertions, since the proof was not yet absolute. The following proposition was adopted, by a large majority, as representing the position of the Congress: "The possibility of the propagation of infectious disease by contaminated drinking-water being proved, one of the most important prescriptions of public hygiene should be to supply communities with water absolutely pure." After an eloquent address made by Dr. Brouardel of the French *comité consultatif d'hygiène publique* on this subject, he concluded with the following words:

"Experience has taught us that it is the large cities which perpetuate the epidemics of typhoid-fever and from which the transmissions of this disease radiate. It may be burdensome to obtain pure water and distribute it to a community, but it is possible. Has it not been said repeatedly that nothing costs so dearly as an epidemic? Is it not true that a malady which kills one or two thousand persons every year strikes, from an economic point of view, a population more cruelly than the taxes, which might have spared the lives of several thousand from 15 to 25 years old, cut down at an age at which they have cost so much and returned so little to their state? If we share these views, we should make an energetic effort in every country, proclaim the good fight, the preservation of human life. Our proofs are sufficient. The authorities need only to be convinced. They hesitate because they find dissidents among physicians. Is there one among you who dares maintain an adverse view, or who has opposing beliefs vigorous enough to say, 'No, the

water into which the stools of typhoid-fever are poured does not produce typhoid?' Let him arise and assume before our successors the responsibility of the deaths which his resistance will have entailed." — *Albany Medical Annals*.



THE DEATH-RATE AND INTOXICATING LIQUORS.

Considerable discussion has taken place the past year in regard to a document published by the British Medical Association relating to the alcoholic habits and death-rate of different occupations and classes. The liquor press has taken up portions of it, and made an effort to show that the death-rate of drinkers was not greater than abstainers. They omit to notice the following, which will be found among the deductions of the Committee of the Association:

"On the whole, then, in addition to the information which we obtained from these returns as to the alcoholic habits of the inhabitants of this country, and as to the relative alcoholic habits of different occupations and classes, we may not unfairly claim to have placed upon a basis of fact the following conclusions:

"1. The habitual indulgence in alcoholic liquors beyond the most moderate amount has a *distinct tendency to shorten life, the average shortening being roughly proportioned to the degree of indulgence.*

"2. *That of men who have passed the age of twenty-five, the strictly temperate, on an average, live at least ten years longer than those who become decidedly intemperate.* We have not, in these returns, the means of coming to

any conclusion as to the relative duration of life of total abstainers and habitually temperate drinkers of alcoholic liquors."

Life insurance statistics, as summed up by the *National Temperance Advocate*, show the great benefit of total abstinence.

The returns of the United Kingdom Temperance and General Provident Institution of London prove conclusively the remarkably greater length of life among abstainers than among drinkers who are not drunkards. The statistics are spread over twenty-two years, and afford the best proof attainable of the marked longevity of abstainers, as compared with drinkers. Drunkards being excluded altogether, the averages for the whole period in the Temperance Section were: Expected deaths, 3937; actual deaths, 2798. In the General Section: Expected deaths, 6144; actual deaths, 5984. By which it is observable that, in the General Section, including moderate drinkers, in the twenty-two years, there were only 160 less "actual" than "expected" deaths; in the Temperance Section, exclusively of total abstainers, there were 1139 less "actual" than "expected" deaths in little more than half the number of policies.

These figures represent facts of great significance for the consideration of the individual citizen as to his personal well being, and for the statesman and legislator charged with the duty of legislating for the promotion of the general public welfare.

The experience of the Rechabites of Great Britain, as compared with the Odd Fellows and Foresters, is 1 death in 44 yearly for drinkers and 1 in 140 for Rechabites. *Selected.*

THE DECLINE OF AMERICAN STAMINA.

Our schools are developing children's minds; what are they doing for their bodies? Is there one boy in ten in our schools deep-chested, erect, well knit, and strong all over? Or one girl in twenty? Are there five boys in an average class of sixty in any of our public schools who can run half a mile, in even three minutes and a half, without being badly blown and looking as if they had been overdoing themselves?

We have left the training of our bodies, especially in our cities and towns, to haphazard, and just that result to be looked for from such gross neglect is seen everywhere. Even the country boy, with his open fields and ample sunlight, and more or less of the invigorating farm-work, simply calls into play the same muscles which several generations of ancestors had developed, and is weak in the other and unused parts. But with the city boy it goes much further than this. Instead of being strong in some muscles, they are often weak in about all of them, and, as a natural result, in their nervous and vital systems as well. Dr. E. M. Hartwell, of Johns Hopkins University, well says on this point:

"There is a condition of mind and body not infrequently seen nowadays in children and youth, especially among females, which is characterized by an irritable, easily overwrought, and unsteady nervous system, arrested muscular development, disordered digestion, and enfeebled powers of assimilation, which might well be called *cachexia scholastica*, since it is largely

and sometimes directly brought about by ignorant and foolish parents and teachers, who force the cram and overwork the undeveloped brains of children, and at the same time, by neglecting or frowning upon their play and exercise, do their best to retard the growth and development which they ought to promote and regulate."

Is there not that in this which may well set every thoughtful parent and teacher considering whether there is not crying need of reform here?

* * * * *

Now let Boston put Dr. Sargent on its School Board; New York, Dr. White or Dr. Savage, of the Berkeley Lyceum, or the director of the gymnasium at West Point, with Professor Dowd to help him; Brooklyn Dr. Anderson, of the Adelphi Academy; Philadelphia, Dr. White, of the University of Pennsylvania; and Baltimore, Dr. Hartwell, of Johns Hopkins University. Of the annual appropriation for education give the children's bodies, not a third, and the mind the other two thirds, but give the bodies simply one tenth, and give these experienced and able men free scope to at once put their ideas in active practice, not in some one high or normal school alone, but in every public school in the city. There is no need of having all follow any one system. There are as many good methods of bodily training as there are kinds of food. If the studies stand in the way, lop off some of the less important ones—enough till of the five hours devoted to the education of our children each day their bodies shall have at least half an hour. For health is almost as important as a smattering of history, or even a fair knowledge

of geography. In that half hour every scholar in the city can be readily given a good deal of vigorous yet never violent exercise for about every muscle of body or limb, and for the entire lungs, and can quickly be taught—a thing they now know practically nothing about—just what muscles any known exercise calls into play.

The work can be done at present right in the school-room, the windows being thrown open to let out the air which has already been breathed a number of times and let in the fresh pure article. The quickened circulation, the deep breathing, the buoyant, gay feeling which lively exercise always brings, will send them back to their books with brains cleared, nerves strengthened, and the whole mental and bodily machinery the better for this brief unbending of the bow.

Let them study also the best elementary work on hygiene. But if there is only time for one of the two, get the exercise and let the books go. Then so arrange the afternoon, as they do at Harvard, that the hours from four to six are left wide open for exercise. Get the parents to see to it that no piano practice or anything else shall interfere with these afternoon hours of play. If it is the skating time of year, and the ice is good, teach them what skating does, what parts it calls into play, and what it does not. If it is rowing time, what rowing does; and so of swimming and tennis, canoeing and foot-ball, and all the popular sports, each in its season—knowledge, by the way, that they will acquire in one lesson, and with avidity. Show them how much work is enough, and what will overdo. Urge the thin-legged to devote much of their two

hours to foot-work, of which there is such a pleasant variety, and the narrow-chested to arm and shoulder work.

Especially impress it on the weak, the poorly built, and the over-studious, who are not good at any sport, that they are going to make very one-sided men and women, if they live that long, and get them out-of-doors in all weathers to lay in a store of vigor and stamina, so necessary to all who hope to ever accomplish anything in life.

If there are not fit skating-places and playgrounds and other facilities yet, see what is the best that can be done in the locality to get them, and have that done. And in the other cities and in the towns and villages the teachers themselves can easily find out most or all that these experts are doing in the large cities, and substantially copy it. If they do not know how to, and are not prompt to learn, put in their places teachers who do know how; for once it is known that the authorities require this qualification in a teacher—and really a qualification very easily acquired—it will come, and come quickly.—*William Blaikie, in Harper's Magazine for July.*

WATER ANALYSIS.

BY CHARLES SMART, M. D.,
Surgeon U. S. A.

Water exercises a sanitary influence as a climatic factor, by its geographical distribution and the quantity present as vapor in the atmosphere; it has a potent influence on the human race by its presence in soils, causing disease as well when the temperature is low as when it is high; it is an essential in the sanitary police of individuals, families and communities; but it is

only as a supply for the physiological necessities of the human organism that we propose now to consider it.

Natural waters have been variously classified, for convenience in discussion, by their source, into rain, snow, ice, river, lake, spring, well, sea-water, etc.; by their prominent inorganic impurities, into saline, chalybeate, sulphurous, calcareous, magnesian, etc.; by their abstergent qualities, into hard and soft. For sanitary purposes no system of classification appears to be needful or of value, for we can rarely generalize when a water-supply is in question, or predicate of one from the known qualities of another. Every specimen must be analyzed, its history carefully examined, and an opinion formed upon the results independent of its source from well, river, or lake, or of its hardness, softness, or mineral characteristics. But there is a marked difference in the results of the analysis of certain naturally pure waters, and to give expression to this difference, which will be explained hereafter, waters may be divided into surface waters and percolated waters. These classes are frequently found in natural supplies to be mixed one with the other. Rain-water stored in sound cisterns may be taken as an illustrative specimen of the one, deep well-water of the other, while river-water consists of varying proportions of both.

Rain-water is generally regarded as a pure water. It contains but minute traces of the mineral salts which are found in well-waters. The solid residue left on its evaporation is small as compared with that of the average well-water; but it cannot on that account be considered as correspondingly pure, for it contains other mat-

ters which are characterized by chemical reactions as marked after their kind as the mineral films and crusts, or crystalline residues, which can be seen, handled and weighed.

It is by means of the rainfall that the atmosphere is purified after long periods of drought. The detritus—mineral, vegetable and animal—of the earth is swept up into the air, where it becomes diffused, and may accumulate so as to dim the outlines of distant views. If in the air, there are miasmatic exhalation and volatile poisons which are unsusceptible of destructive oxidation by atmospheric influences, spores of bacilli or fungi capable of instituting a fermentative action in organic substances under congenial conditions; these, although undiscoverable, or as yet undiscovered by the microscope, will be washed down by the falling rain as certainly as the pollen and starch grains, carbon particles, fibres, filaments, and mineral dust which may always be detected in the sediment of a rain-water. In times of epidemic prevalence of disease, as of cholera or yellow-fever, it is possible that the rain-washed impurity from the air may contain the essence of the prevailing disease. When the exhalations from extensive malarious tracts rise into colder strata of the atmosphere, it is probable that the disease cause is carried thence with them, where it is condensed and falls as a constituent of the rain. When, during the warm days of summer, the atmosphere stagnates in the streets of a city and becomes so saturated with the foul issues from sewer ventilation, half-dried gutters, unremoved garbage, and a generally impure soil, that a putrefactive tendency is established, it

is probable that the falling shower, in purifying the atmosphere, becomes itself exceedingly impure and the source of subsequent diarrhoeal, choleraic, dysenteric, or typhoid troubles, if used as a drinking-water. The rain is the sewage of the atmosphere, and it is hardly to be supposed that spores, germs, bacilli, ferments, poisons, or other deleterious organic substances which have resisted the atmospheric oxidizing agencies, will become destroyed or rendered inert by their transference from an aerial to an aqueous medium.

The ammonia which is evolved during the putrefactive process escapes into the air and is diffused therein; the bacteria, the cause of this putrefactive change in organic matter, also pervade the atmosphere. The presence of the one may be shown by chemical means, that of the other by culture experiments. But the presence of both may be in like manner demonstrated in the rain which has washed them down from the atmosphere. Since these bacteria and the products which accompany them as exhalations from fermenting organic matters may be found in the rain, it seems within the limits of probability that a malarial germ or microphyte, or a product of its growth during the fermentative change in organic matter which is connected with paroxysmal fevers, may be exhaled into the atmosphere, and be found thereafter in the rain or snow; or that a choleraic germ may in like manner be present in the rain during the epidemic prevalence of the disease.

Moreover, rain-water is liable to be contaminated by impurities on the collecting surface. The cleanest of roofs become covered with dust in dry sea-

sons, and this dust, although largely mineral in character, contains a percentage of organic matter which requires only moisture for the inception of fermentative change and the development and growth of organic forms. The germ, essence or poison of specific disease, which may be air-borne, must thus, of necessity, be also susceptible of transmission to the system by means of a rain-water supply; for it may be either carried down by the falling rain, or be washed into the reservoir from the collecting surface on which it may have been condensed or deposited.

Nevertheless, rain-water, as will be shown hereafter, is one of the purest sources of water-supply. By rejecting all short summer storms and the first part of the fall of continued rains, thus excluding from the reservoir the atmospheric impurities and the washings from the water-shed, a water may be obtained which, although containing traces of ammonia and of organic matter, must, from its natural history, be considered as a perfectly wholesome supply.

When the rainfall reaches the ground it is disposed of in one or other of two ways. It runs off by surface channels or it penetrates. Its disposition is determined by the rapidity of the fall, the superficial characteristics of the receiving surface, its porosity, and the permeability or impermeability and dip of the underlying strata. That which runs off by surface channels into ponds, lakes or river-bottoms, is practically a rain-water which has become somewhat changed in its character by its contact with the ground forming the water-shed. It has lost some of its impurities which it washed from the atmos-

phere, but it has gathered more in its course over the surface; and the alteration in its quality depends upon the nature of these fresh acquisitions. Running over the rocky ground of an unpeopled country, it acquires only a few grains of mineral matter per gallon; sweeping over the foul streets of a city, it may become converted into veritable sewage.

The rainfall which penetrates the surface soil percolates until it joins some body of subsoil or subterranean water. This may be immediately below the surface, as when the groundwater is upheld by an impervious layer underlying a shallow stratum of superficial soil. In river-bottoms the subsoil water is usually found close to the surface, upheld in this position by the bed-rock. In some situations, as in the mesas of Arizona and New Mexico, the impervious layer is at such a depth under porous sand and gravel that there is practically no subsoil water. In other localities, as where the rainfall penetrates the uplands of a river-valley, the water, on reaching the impervious stratum, may have to percolate along its slope for a long distance before it reaches the general body of subsoil water in the river-bottom. In its passage along this slope it may return to the surface as a spring at some point where a rift or erosion of the surface-soil has exposed the bed-rock of the water-shed.

Where the rainfall is absorbed on ground which forms the outcrop of a porous stratum underlying an impervious layer, it may have to percolate for great distances before it reaches the subterranean basin where its level is temporarily found. Here it may be tapped by deep wells, or it may

issue by natural crevices in the form of springs. The water which percolates the soil becomes altered in character by the penetration, and the extent of the alteration depends on the solubility of the mineral matter through which it passes and its freedom from, or saturation with, organic substances in a decomposing state. If the distance traversed is great the inorganic constituents of the water may be increased, but the organic will probably be diminished; for the chances of encountering soluble mineral matters are augmented and time is afforded for the progress of changes which transform organic matter into inorganic salts. The mineral matters which a percolated water takes up do not usually come up for consideration in questions as to wholesomeness or usefulness as a domestic supply. When they are large enough to be unwholesome the taste of the water generally interferes with its use as a potable supply, and its hardness with its use for domestic and economic purposes. When they are not in sufficient amount to be perceptible to the taste, they are usually neither unwholesome nor injurious in other ways. Organic matter dissolved in water, such as that carried down in the rainfall and that gathered by contact with an impure receiving surface, becomes transformed into ammonia and nitric acid during its percolation. This was formerly considered to be an oxidation of the organic nitrogen by the air in the pores of soil. The explanations given were theoretical and obscure so long as chemical laws only were conceived to be involved in the process. It is now well known that the retrograde metamorphosis of organic matter which fits

it for absorption by living vegetation is due to the action of micro-organisms. Bacteria are recognized as the agents which reduce the organic nitrogen to the ammoniacal condition, and the experiments of Schloesing, Warington, and many others following them, have shown that the formation of nitrates from this ammonia is likewise due to actions of a similar character, although the living ferment has not been identified.

The influence of percolation through the soil has thus a purifying tendency. As an offset to the comparatively harmless mineral additions, the subtle organic matter and the complex and unstable substances formed during its decomposition are transformed into innocent inorganic salts. Even some of the germs which are washed from the air by the falling rain or collected from an impure surface may be removed by this natural process of filtration, if we assume the essence of malarial diseases to reside in a minute organism; for while such diseases have been frequently referred to the use of surface-waters, no instance has been recorded which throws suspicion on percolated waters. On the contrary, the testimony is strong as to the efficiency of filtration in removing the malarial germ; for the purer water-supply which, in all countries, has succeeded the use of surface-collections, and which has been coincident with the diminished prevalence of malarial diseases, has been in the first instance derived from wells and springs; in other words, a percolated water. But this favorable change, exercised by percolation in the case of the malarial germ, is, unfortunately, exceptional. The experiments of Pumpelly and

Smythe for the National Board of Health, and those more recently recorded by P. F. Frankland (*Van Nostrand's Engineering Magazine*, xxxv., p. 315, 1886), warrant the assertion that bacteria are not completely removed from water by any process of filtration. The history of certain outbreaks of typhoid-fever and cholera give full assurance that percolation does not purify water from the essence of these diseases. So it is probably with the causes of other specific diseases, as scarlet-fever, diphtheria, small-pox, yellow-fever, etc., which may be washed from a contaminated atmosphere.

But it is not so much from the air as after its contact with the soil that rain-water becomes impregnated with specific-disease poisons. The germs of typhoid-fever and cholera find their way to the soil with the excretions of individuals suffering from these diseases, and are taken up by and accompany the percolating water. The dead organic matter which may be dissolved at the same time may afterwards disappear by nitrification; but there is no assurance that any modifying influences exerted on the living matter.

The purity of water depends on the purity of the substances with which it comes in contact. Rain-water shed from a well-washed slate roof into a clean cistern is a pure supply, but collected in a tank, ditch, pond, or lake, it will be pure or impure according to the condition of the water-shed and the receiving basin. Subsoil water may be rain-water purified by filtration, as in springs or wells in a clean sand, or it may be so altered by the addition of organic matter from a foul soil as to be unfit for use, as in the

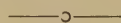
shallow wells of most localities which have been occupied for some time. Subterranean springs or deep well-waters are usually organically pure, and wholesome if not excessively charged with mineral salts, but even these have occasionally been the source of epidemic diseases. River-waters have their quality determined by the characters of the water-sheds and soil-drainage, and especially by the presence or absence of masses of population on their banks.

The effects of impure water vary according to the impurity. Where the mineral matter does not exceed 30 parts per 100,000 (17.5 grains per U. S. gallon, or 21 grains per imperial gallon), and does not give a taste to the water, it may be accepted as wholesome without inquiry into the special constitution of the inorganic salts. It has been suggested that mineral salts in the drinking water may supply certain wants in the economy, as, for instance, lime for the bones of the growing child; but as every article of food contains its percentage of such matters, it would seem that ample provision has been made by nature without requiring their introduction by means of the water-supply. Moreover, as water is, so far as we know, intended for the solution of fresh nutritive materials and the removal of the products of tissue-change, its freedom from dissolved solids would seem desirable.

Where the mineral salts are in excess of 30 parts to 100,000 of the water, yet do not give a taste to it, some doubt as to its qualities may be entertained, for it is well known that certain waters induce relaxation of the bowels or affect the kidneys through the agency of their mineral constitu-

ents. These doubts are usually settled, not by chemical analyses, but by the test of experience.

If the water contains more than 100 parts of salts in the 100,000 it is evidently unsuited for a potable supply. The sense of taste objects to many lime, magnesian and alkaline waters even before this limit is reached. Iron in comparatively minute quantities may be recognized, but when it is so the water containing it is thereby removed from the potable to the list of mineral waters.—*Extract from article in the Sanitarian.*



PREVENTION OF CONSUMPTION.

ACTION OF THE HEALTH DEPARTMENT OF THE CITY OF NEW YORK.

Drs. Hermann H. Biggs, J. M. Prudden and Henry P. Loomis, Pathologists of the Board of Health of New York, who were requested to formulate a brief and comprehensive statement regarding the nature and prevention of tuberculosis, have made their report as follows:

The disease known as tuberculosis, and when effecting the lungs, as pulmonary tuberculosis (consumption) is very common in the human being and in certain domestic animals, especially cattle. About one quarter of all the deaths occurring in the human being during adult life, is caused by it, and nearly one half of the entire population at some time in life acquires it. The disease is the same in nature, in animals and in man, and has the same cause.

It has been proven beyond a doubt that a living germ called the "tubercle bacillus" is the cause and the only

cause of tuberculosis. Tuberculosis may affect any organ of the body, but most frequently first involves the lungs. When the living germs find their way into the body they multiply there, if favorable conditions for their growth exist; and produce small new growths or nodules (tubercles), which tend to soften. The discharges from the softened tuberculosis, containing the living germs, are thrown off from the body. In pulmonary tubercles the discharges consist, in part, of expectoration. The germs thus thrown off do not grow, outside the living human or animal body, except under artificial conditions, although they may retain their vitality and virulence for long periods of time, even when thoroughly dried. As tuberculosis can only result from the action of these germs, it follows from what has just been said that when the disease is acquired it must result from receiving into the body the living germs that have come from some other human being or animal affected with the disease. It has been abundantly established that the disease may be transmitted by meat or milk from the tubercular animal. The milk glands in the milk cows often become affected with the disease when their lungs are involved, and the milk from such animals may contain the living germs, and is capable of producing the disease. Among stall-fed dairy cows twenty or thirty per cent. are sometimes found to be affected with the disease. Tubercular animals are also frequently killed for food. Their flesh sometimes contains the germs, and if not thoroughly cooked is capable of transmitting the disease. Boiling the milk and thoroughly cooking the meat de-

stroys the germs. Although the meat and milk from tubercular animals constitute actual and important sources of danger, the disease is acquired, as a rule, through the communication from man to man.

Tuberculosis is commonly produced in the lungs (which are the organs most frequently affected) by breathing air in which the living germs are suspended as dust. The material which is coughed up, sometimes in large quantities, by persons suffering from consumption, contains these germs, often in enormous numbers. This material, when expectorated, frequently lodges in places where it afterwards dries, as on the streets, floor, carpets, clothing, handkerchiefs, etc. After drying, in one way or another, it is very apt to become pulverized and float in the air as dust.

It has been shown experimentally that dust collected from the most varied points, in hospital wards, asylums, prisons, private houses, etc., where consumptive patients are present, is capable of producing tuberculosis in animals when used for their inoculation. Such dust may retain for weeks its power of producing the disease. On the other hand, dust collected from rooms in institutions or houses that have not been occupied by tubercular patients, does not produce the disease when used for the inoculation of animals.

These observations show that where there are cases of pulmonary tuberculosis under ordinary conditions, the dust surrounding them often contains the "tubercle bacilli," and persons inhaling the air in which this dust is suspended may be taking in the living germs. It should, however, be dis-

tinctly understood that the moist sputum received in proper cups are not elements of danger, but only the dried and pulverized sputum. The breath and moist sputum are free from danger, because the germs are not dislodged from moist surfaces by currents of air. If all discharges were destroyed at the time of exit from the body, the greatest danger of communication from man to man would be removed.

It then follows that tuberculosis is a distinctly preventable disease. It is a well-known fact that some persons, and especially the members of certain families, are particularly liable to tuberculosis, and this liability can be transmitted from parents to children. So marked and so frequent is this liability, and so frequent is the development of the disease in particular families, that the affection has long been considered hereditary. We now know that tuberculosis can only be caused by the entrance of the germ into the body, and that this transmitted liability simply renders the individual a more easy prey to the living germs, when once they have gained entrance.

The frequent occurrence of several cases of pulmonary tuberculosis in a family, is then to be explained, not on the supposition that the disease itself has been inherited, but that it has been produced after birth by transmission directly from some affected individual. When the parents are affected with tuberculosis the children from the earliest moments of life are exposed to the disease under the most favorable conditions for its transmission, for not only is the dust of the house likely to contain the bacilli, but the relationship also between parents

and children, especially between the mother and child, are of that close and intimate nature especially favorable for the transmission by direct contact.

If, then, tuberculosis is not inherited the question of prevention resolves itself principally into the avoidance of tubercular meat and milk and the destruction of the discharges, especially the sputum of tubercular individuals. As to the first means of communication, those measures of prevention alone answer the requirements which embrace the governmental inspection of dairy cows and of animals slaughtered for food, and the rigid exclusion and destruction of all those found to be tubercular.

For the removal of the second means of communication, *i. e.*, the sputum of tubercular individuals, the problem is simple when the patients are confined to their rooms or houses; then wooden or pasteboard cups with covers should always be on hand for the reception of the sputum. These cups are supported in simple racks, and at least once daily, or more frequently if necessary, should be removed from the racks and thrown with their contents into the fire. (A cheap and efficient cup answering this purpose is now on the market, and is supplied by the druggists.)

The disposition of the expectoration of persons who are not confined to their rooms or houses is a far more difficult problem.

The expectoration certainly should not be discharged on the street, and the only practical means for its collection seems to be in the handkerchiefs, which, when soiled, should at the earliest possible moment be soaked in

a solution of five per cent. carbolic acid and then boiled or washed. Handkerchiefs thus soiled are exceedingly dangerous factors in distributing tubercle bacilli, for when the sputum becomes dry it is easily separated in flakes from the cloth, and then soon becomes pulverized and suspended as dust.

It becomes evident from what has been said that the means which will most certainly prevent the spread of this disease from one individual to another are those of scrupulous cleanliness regarding the sputum. These means lie largely within the power of the affected individual. It is furthermore to be remembered that consumption is not always, as was formerly supposed, a fatal disease, but it is in very many cases a distinctly curable affection. An individual who is well on the road to recovery may, if he does not with the greatest care destroy his sputum, diminish greatly his chances of recovery by self-inoculation.

While the greatest danger of the spread of this disease from the sick to the well is in private houses and in hospitals, yet, if this danger is thoroughly appreciated, it is for the most part quite under control, through the immediate destruction of the sputum and the enforcement of habits of cleanliness. But in places of public assembly, such as churches and theaters, particularly the latter, conditions are different and the safety would seem to depend largely upon a dilution and partial removal of the floating and possibly dangerous dust by means of adequate ventilation.

Rooms in private houses and hospital wards that are occupied by phthi-

cal patients should from time to time be thoroughly cleaned and disinfected, and this should always be done after they are vacated, before they are again occupied by other individuals. Steamship companies should be obliged to furnish separate apartments for consumptive persons, so that no person in the exigencies of travel need be forced to share his room with one who might be a source of active danger to him.

We desire to especially emphasize the following facts:

1. That tuberculosis is a distinctly preventable disease.
2. That it is not directly inherited, and
3. That it is acquired by the direct transmission of the tubercle bacillus from the sick to the healthy, usually by means of the dried and pulverized sputum floating as dust in the air.

The measures, then, which are suggested for the prevention of the spread of tuberculosis are:

1. The security of the public against tubercular meat and milk, attained by a system of rigid official inspection of cattle.
2. The dissemination among the people of the knowledge that every tubercular person may be a source of actual danger to his associates, if the discharges from his lungs are not immediately destroyed or rendered harmless; and
3. The careful disinfection of rooms and hospital walls that are occupied or have been by phthical patients.

Sanitarian.

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If you would make an enemy, lend a man money and ask for it again.

Salt Lake Sanitarian

A MONTHLY JOURNAL OF MEDICINE AND SURGERY.

Devoted to the prevention and cure of diseases and injuries, and the promulgation of the laws of health and life.

M. B. SHIPP, M. D., EDITOR.

SALT LAKE CITY, SEPTEMBER, 1889.

EDITORIAL.

DOMESTIC PRACTICE.

There are but few families to be found that do not undertake to doctor the ordinary ills of life that afflict them. A good physician very much dislikes to be called when there is not much the matter and his services are not really needed. He has not the time to spare from his busy practice, besides, he feels unwilling to make a charge for a visit where he rendered but little if any service. The *quack* is in clover with such a case. The deficiency that prevails consists in the fact that the laity or masses of the people are not conversant with the general conditions and functions of the organs of the body in a state of health, or where there is a deviation from the normal or healthy condition, beyond the fact that they are in pain, they have no proper conception of their illness. At least this will be the case in the majority of instances. The only way that this order of things may be changed is that a better education or knowledge of disease should prevail among the people. It is not to be supposed that every body should know as much as "the doctor," else the "occupation would be gone." There are complications and critical situations

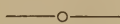
in sickness that the skilled practitioner renders inestimable service.

A prominent feature in the practice of medicine is that the most good can be accomplished by treatment in the early stages or commencement of the attack. As a rule, during this period the patient is in the hands of his friends, subjected to such domestic applications as may be in vogue. It is here that some general knowledge plays such an important part. The practice of medicine bestows the greatest benefit among that class of patients that have the best understanding of disease. The directions of the doctor are more scrupulously carried out. It is worse than folly to employ the physician and then throw the remedies that he prescribes out of the window.

The drift of medical research today is in the direction of preventive medicine. To attempt the prevention brings better success than trying to cure the malady after it has become implanted. To avoid the causes or ward off the attack of disease depends almost wholly upon the knowledge and conduct of the people. Disease is lurking in the pathway of every individual. You must know the paths that lead round the pitfalls if you would hope to escape the downfall. You cannot have the doctor at your side constantly to point out the dangers that lie in the road. It becomes absolutely necessary for the person to have the understanding and knowledge for himself, how to take preventive measures if he would escape disease. Prophylactic medicine finds its natural soil the best surrounding for its growth, yields it most precious fruits in *domestic practice*. It is too late to call the doctor to save you from an attack

after the fever has commenced its ravages. The best efforts of the medical faculty today are directed to the object of educating or informing the laity of those means of escape that are within their reach from some of the most destructive maladies that afflict humanity, as, for instance, typhoid-fever, and lung troubles or consumption.

It is frequently the case that in the incipient stage of an attack of sickness mild remedies and simple applications would assist nature to ward off the disease, whereas, if unaided, or helped in the wrong direction as is so often the case, the slight illness settles down into a violent form of disease. This result comes from a lack of information. Perhaps the skin was not doing its work, a proper use of water applied externally or internally would have been beneficial. There are many good things that prevail in domestic practice, but there are many other things that should be displaced for something better.



CONCERNING LIGHTNING RODS.

A correspondent of the *Insurance Monitor* says that the requirements for a good lightning rod are: 1st. Material and size. The best available metal, it being the best conductor, is copper; good, soft, wrought iron is about one seventh as good a conductor as a pure copper rod of the same weight per foot. And yet, a half-inch iron rod has conducting power sufficient for an ordinary house, say of twenty by fifty feet. But copper is the best, as I have said, not only because it is a better conductor, but also because it does not

oxidize so rapidly and will therefore last longer, and because it is more pliable and can be bent and fastened to the building much easier. In no case can you make the rod too large, if it is properly erected and grounded.

2d. The joints. Care must be taken that the joints are perfect, for a film of dirt or rust in a joint adds largely to the resistance of the rods. And a good rod may be rendered almost worthless by bad connections at the joints.

3d. Don't try to insulate it, because: first, you cannot do it if you try; for electricity, which has just shown its power of overcoming resistance, by leaping from a cloud to the rod, hundreds and thousands of feet, through air, could hardly be restrained by a ridiculously small ring of glass, which is wet all over with the first dash of rain. And second, because you only weaken the fastening and render the rod more liable to be torn away by the wind, when you run it through those glass thimbles.

Nail the rod solid to the house. If it is in the form of a flat copper strip, so much the better. Nail it closely (with copper nails, to prevent chemical action and oxidation of the nails). Then paint it the color of the rest of the house, and it is out of sight and protected.

4th. Extent of rod. Remember that your effort is to interpose between the house and the atmosphere a conducting medium that will carry to the earth all accumulations of electricity. Recollect, also, that a rod will protect, when elevated above the roof, a circle whose radius is the height of the rod above the building. It follows, then, that we must protect the house

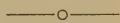
by a sufficient number of elevated points. Speaking generally, it will suffice if each gable has a point, say six or eight feet high, and each chimney the same, and all are strapped together by strips of copper nailed on the ridges of the roof. Connect this system to the eave troughs if they are of metal and go to the ground.

5th. Earth connections. And now, having put plain metal points on each rod—put no money into gold, platina, and other fancy points—a copper one well tinned to keep it bright is as good as any—having done all this, and done it well, carry the rod or rods down to the ground, and to *permanent moisture*. Otherwise they are worse than useless, absolutely dangerous. If there is a well near by, go to the bottom of that. If there are water or gas pipes in the house, scrape the pipe clean outside the house, wrap your copper strip tightly around it, and solder it on. If you have no well or pipes, dig down to permanent wet, not merely to a point that is damp in wet weather. Bury a plate of copper, say two feet by four, setting it on edge, to get moisture on both sides—and rivet and solder your strips to it. Then fill it with charcoal or coak on both sides, to retain moisture, and fill the holes. If you can run waste water from the house into the hole, to keep it damp, so much the better.

At a town on the Mississippi River, a few years ago, a large number of rods were tested, both new and old, and not one of them went to water. On inquiring it was found that the nearest water was over fifty feet below. All above was fine, sharp sand. Of course every building there struck by lightning was burned. In cases like this there is but one remedy. Drive iron

tubes for water, making a driven well, and solder to the top of that, and the same tube that brings your water up will carry your lightning down.

Selected.



TUBERCULOSIS—ITS CONTAGIOUS NATURE.

Since Koch announced to the medical world the discovery of the bacillus tuberculosis, the question as to the contagiousness of phthisis has been thoroughly argued pro and con, but all the time the profession has been drifting toward the conclusion that it is contagious. Still there are those who insist that the theory is not yet proven, and that the bacillus may be the result and not the cause of the malady. The latest, most conclusive and authoritative opinion upon this much-vexed question issues from Drs. Prudden, Biggs and Loomis, pathologists to the New York City Board of Health.

These gentlemen were requested some time ago to prepare for general circulation a statement as to the contagiousness or non-contagiousness of tuberculosis. In the report they assert that it has been 'proven beyond a doubt that the tubercle bacillus is the cause and the only cause of the disease; that the observations of Koch have been so often and so completely proven that today they stand as one of the most absolutely demonstrated facts in medicine. These declarations from so eminent a source will have an influence upon American medicine at least, and will tend to place this question in the category of "settled." The conclusion is equally as unassail-

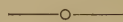
ble as that regarding the etiology of typhoid fever, and its influences upon medicine will be more far-reaching.

The two most serious problems pertaining to disease, ever confronting the profession, are causation and treatment. The pathology, the diagnosis, the clinical history and other features are more easily arrived at, but causes are too often mysterious and remedies disappointing. Solve either and a great victory is gained. If it is a fact—and evidence now strongly if not positively indicates it—that the origin of tuberculosis is revealed, the profession herewith makes the longest step forward it has made in a century. This disease, which, by its ceaseless, relentless march into the ranks of the human family, demands every year more victims than combined wars and pestilence, now yields, partially at least, to our power. We can, to an extent, prevent if we cannot cure. We can limit if we can not eradicate. By the discovery of this minute yet great causative agent, we begin to understand how the unfortunate consumptive proves a source of contamination to those around him. Each mass of expectorated material comes impregnated with the dangerous germs, which, becoming dry, float harmlessly about until lodgment is found in some congenial soil. Hospitals, asylums, prisons, private houses, public health resorts, all places where consumptives are or have been, become centers of contamination. We will soon learn to fear the tubercle of consumption as we now fear the pustule of small-pox.

But, it should be remembered, that the breath of tubercular patients and the moist sputum are not elements of danger. It is the dried, pulverized

expectoration that is to be avoided. By destroying all discharges from the body immediately upon their removal, the greatest source of infection between man and man is removed, although it is certain that the disease may be contracted from the milk and meat of tuberculous animals. According to this view, consumption becomes a distinctly preventable disease. A sacred duty devolves upon physicians to instruct the people as to the means and methods of prevention.

Pacific Medical Journal.



THE DANGERS OF BOTTLED MILK.

Sir: When we take into consideration milk as being one of the chief necessities of the sick-room and nursery, we cannot deny that it, above all things, demands our greatest attention. Oftentimes it has occurred to me, when seeing bottles of milk brought into the sick-room, how easily these may serve as means of carrying poison or germs from one place to another. Realizing the danger and importance of this subject, I have given the matter some attention, and investigated the methods of several prominent milk-dealers of our city.

The first, and one important point to be considered in bottled milk, is the great amount of dishonesty practised among milk-dealers. It is very exceptional that the reality is as we picture it. There are very few firms who bottle their milk in the country. On the contrary, it is brought here about one or two o'clock in the morning (in large cans), and put in bottles after its arrival. Thus it may happen

that your next-door neighbor may get the same milk for less money and of same quality for which you yourself pay extra. This is a great fraud, practised in our own city, and few suspect it. Like in every other business, the almighty dollar is the chief attraction. People have fancies, and those fancies must be gratified in order to retain their custom. The very thought of its being bottled in the country, retaining the fragrance and purity of the farm, is in itself sufficient to induce many people to buy it in this form. Yet it is fair here to state that some dealers are perfectly honest in this respect, while others are deceptive.

Again, when we think of these bottles being cleansed in a vat of water where dozens of others have been washed, how can we expect thorough cleanliness?

Many may say the large cans are no more thoroughly cleansed. But observation and common-sense convinces one that a large can could be much more thoroughly washed than a narrow-necked and small bottle. Admitting for a moment that the large cans were no better washed than a bottle, we could not contract half the poison, comparatively, from a forty-quart can as we could from forty one-quart bottles.

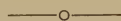
Here comes in the most important point in this paper, viz., the contagion which might result from the indiscriminate use of these bottles. The very same bottles you use this morning may have been standing in a sick-room yesterday. Patients oftentimes drink immediately from the bottle. It is reasonable to suppose that, having stood in the sick-room, they are as much impregnated with poison as any

article in the room. Often the bottles are closed in the sick-chamber, thus shutting in the dreaded germs and doubling thereby the extent of danger feared.

The ordinary cans from which milk is dipped never enter a house, and hence must be more pure. They stand no chance of being contaminated with disease. The only argument or point that can be raised in behalf of bottled milk is, that no dirt can enter, as occasionally does, in milk dipped from large cans. But who would not prefer a trace of dust to a trace of some dreaded disease.

The risk certainly is great, and should receive our earnest attention.

E. Blackwell, M. D., in Medical Record.



PURE DRINKING-WATER.

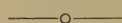
Sir: The question of obtaining pure drinking-water, either from our reservoirs in the cities or from wells and springs in the country, and preventing the contamination of the same, has been agitating the minds of the people for some time; and essays upon and discussion of the subject are filling the columns of the medical and lay press. In none of the recent publications, however, so far as I read them, have I seen any notice taken of an important observation made by Kraus, about two years ago, and published in the *German Archives for Hygiene*, 1887, pp. 237-252.

Kraus made a number of carefully conducted experiments on the behavior of various pathogenic and common saprophytic bacteria in drinking-water, and found that pathogenic bacteria of various kinds mixed with drinking-water from reservoirs or wells in-

variably disappeared from such water in a few days, having lost their ability of multiplying. Of Koch's vibrio, for instance, not a trace could be found after twenty-four hours. Typhoid bacilli cannot be demonstrated any more after six days, and those of anthrax after three. Now, both the bacilli of typhoid and Koch's vibriones are known to have retained their power of development in sterilized water for thirty-two and even eighty-two days, and it appears to be perfectly logical, therefore, when Kraus infers that the rapid destruction of the pathogenic germs in non-sterilized water is due to the action of the common water-bacteria. It is also interesting to know that the result of observation was the same, whether pure spring-water or impure well-water had been used in conducting the experiments.

What science had demonstrated here has been practically known to observing country people for many years. The farmers around Tannersville, for example, where I have been in the habit of spending my vacation for some years, have to keep a pretty sharp look-out nowadays to keep their wells and springs from poisoning by the more or less defective or badly located drains of the numerous boarding-houses and small hotels in and around the village and on their own premises. But they tell me that the infecting focus once discovered, and the ichorous oozing from it to the spring effectually cut off, the contaminated spring-water will run pure again in a week or two, and be fit once more for use without danger. I have not seen them, however, use the water of suspected wells in less than a month or two after cleansing them, and thought well of

their precautions in that respect. On the strength of these significant researches of Kraus, to relax our vigilance as to the various contaminating sources of our water-supply would be folly indeed; but it is of great practical value to have it demonstrated that the common water-bacteria will make short work of pathogenic germs, and soon purify a polluted spring after we have succeeded in removing the cause of its pollution.—*Leonard Weber, M. D., in Medical Record.*

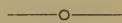


TOBACCO SMOKING.

Dr. A. G. Auld of Glasgow thinks, is responsible for a variety of functional derangements which there is no reason to aver cannot terminate in organic disease.

He is convinced that the slightest trace of albumen in the urine is pathological, and that it is frequently induced by preventable causes, and one of these is chronic poisoning by nicotine. He thinks he has certainly traced the disorder in a few cases entirely, and in others partially, to the habit in question.

Another derangement consists in localized fibrillary twitchings, something similar to what is observed in progressive muscular atrophy, and perfectly distinct from tremor. The twitchings are often excessive, and occur most frequently about the trunk and upper arms.—*Lancet, April 20th, 1889.*



A student in the Albany Medical College was asked the other day, in his class, how he would treat a corpulent man. He said he generally found they would take beer.

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VOL. II.

SALT LAKE CITY, OCTOBER, 1889.

No. 7.

THE CARE OF THE SICK.

VII.

BY THE EDITOR.

The first thing that demands the attention of those attending the sick is to attempt to relieve their sufferings—to ease their pain—but little can be done with remedies that may be used for the cure of various diseases until the acute suffering of the patient is relieved. Pain may be so excessive, the nervous shock produced by it be so great as to cause death. In our investigations for the purposes of diagnosing or finding out what is the matter, pain becomes a very important factor.

We would make but uncertain headway in coming to correct conclusions as to the nature of the sickness we are called to attend if we were not guided in some measure at least by the character and localization of the pain endured by the patient. This becomes very noticeable in the case of infants, and small children who are unable to give us the correct information as to the pain they are suffering. The attendant has to be guided by the inferences to be drawn which are sometimes very misleading.

Again some people do not bear pain as patiently as others. Judging from the noise and complaint made, you might be led to conclude that the individual in pain was in a critical condition, yet another person similarly affected would scarcely notice it.

There are a great many disagreeable feelings that harass sick folks. "They complain of chills, of heat, of languor, of restlessness and of uneasiness; but their most constant complaint is of pain. Now *pain* may be of various kinds; it may be dull or gnawing, it may be acute and lancinating. In its duration it may be permanent or remitting. A *dull* pain is generally persistent. It is most often present in congestions in sub-acute and chronic inflammations and where gradual changes of tissues are taking place. It is the pain of chronic rheumatism, and shades off into the innumerable aches of this malady. The only acute affections in which it is apt to exist are inflammations of the parenchymatous viscera (internal organs) and of the mucous membranes. *Acute* pain is in every respect the reverse of dull pain. It is usually remittent and not so fixed to one spot. It is met with in spasmodic affections, in neuralgia, and with extremely sharp and lancinating pangs in malignant disease. Pain varies much in intensity, it is sometimes so extreme as to cause death. We have to judge of its severity partly on the testimony of the sufferer, partly by the countenance and partly by the attending functional disturbance. The latter are not to be overlooked for they enable us to some extent to appreciate whether the torments are as great as they are re-

presented to be. The seat to which the pain is referred, is far from being always the seat of the disease. A calculus in the bladder may produce dragging sensations extending down the thighs; inflammation of the hip joint gives rise to pain in the knee; disorders of the liver occasion pain in the right shoulder. Pain felt at some part remote from that affected is either transmitted in the course of a nerve involved or is sympathetic."

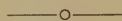
"The same abnormal action does not always create the same kind of pain. Inflammation, for instance, causes different pain as it involves different structures; the pain from an inflamed pleura is not the same as that from an inflamed muscle.

"Speaking generally, the tissues, themselves, seem to determine the form of pain more certainly than does the precise character of the morbid process. Thus pain in diseases of the periostium and bones, no matter what may be the exact nature of the malady is mostly boring and constant; in the serous membranes sharp; in the mucous membranes dull; and in the skin burning or itching."

But whatever may be the character of the pain, if it be severe, it demands our prompt attention for its relief. The sub-cutaneous injection or hypodermatic application of morphia, is the best thing to be done that is known to the profession. It is of easy application and seldom fails in its prompt action. To give morphia in this manner, you proceed as follows: With the left hand pinch up a portion of the skin between the thumb and forefinger. The needle of the syringe is thrust through the skin into the areolar tissue underneath. The air

must be expelled from the instrument before the needle is inserted. The operator must be careful to avoid the veins, nerves and bony prominences. If the veins should become involved in the operation, it might prove very disastrous. The injection of the fluid should be made slowly. About one-eighth grain morphia is the usual dose. However, in domestic practice the hypodermic syringe may not be at hand, when it becomes necessary to give the morphia by the mouth. The dose may be from one-eighth to one-quarter grain for a grown person, according to the conditions of the case and may be repeated after an interval of twenty or thirty minutes if no relief is afforded.

If the pain is located in the stomach or bowels it may sometimes be relieved by drinking a cup of hot water or tea made from some of the mild herbs. The liquid should be drunk as hot as can be borne. Much can be done for the relief of pain by external applications of which we will make mention in our next.



ONE day a young clerk who was anxious for a large fortune determined to visit Commodore Vanderbilt and learn from him the secret of accumulating wealth. He entered the magnificent apartments of the millionaire, with whom he was somewhat acquainted, stated his errand, and asked him on what mysterious principle he conducted business with such unexampled success? Mr. Vanderbilt eyed him a moment to sound his motives, and then slowly replied: "By working hard and saying nothing about it."

CONSIDERATIONS CONCERN-
ING SOME EXTERNAL SOURCES
OF INFECTION IN THEIR
BEARING ON PREVEN-
TIVE MEDICINE.

BY WILLIAM H. WELCH, M. D.,

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versity, Baltimore, Maryland.

No department of medicine has been cultivated in recent years with such zeal and with such fruitful results as that relating to the causes of infectious diseases. The most important of these results for preventive medicine and for the welfare of mankind is the knowledge that a large proportion of the causes of sickness and death are removable.

It is evident that efforts to preserve health will be most intelligently and effectually applied when they are based upon an accurate and full knowledge of the agencies which cause disease. Public and private hygiene, however, cannot and, fortunately, has not waited for the full light of that day whose dawn has only begun to appear, when we shall have a clear insight into the causation of preventable diseases. Cleanliness and comfort demand that means shall be taken to render pure the ground on which we live, the air which we breathe, and the water and food with which we are supplied, and we must meet these needs without waiting to learn just what relation infectious agents bear to the earth, air, water and food.

It is a fortunate circumstance that modern sanitation has been controlled so largely by the belief in the dependence of endemic and epidemic diseases upon organic impurities in the soil and in the water. Incomplete and

even erroneous in many respects as are the views which have prevailed concerning the origin and spread of epidemic diseases by the decomposition of organic substances, the sanitary measures which have been directed toward the removal of filth have achieved great conquests in limiting the development and extension of many infectious diseases. * * *

While nothing should be said, or need be said, to lessen the importance of cleanliness for public health, it is important to bear in mind that hygienic cleanliness and æsthetic cleanliness are not identical. In water which meets the most severe chemical tests of purity typhoid bacilli have been found. On the other hand, the air in the Berlin sewers, which certainly does not meet the most modest demands of æsthetic cleanliness, has been found to be nearly or quite free from bacteria.

It needs only to be stated to be generally admitted that the scientific basis of preventive medicine must be the accurate knowledge of the causative agents of preventable diseases, a knowledge which can be derived only from a careful study of all of the properties of these agents, the modes of their reception and of their elimination by the body, the circumstances which favor and those which retard or prevent their development and spread, their behavior in the various substances which surround us, or which we take into our bodies, and the sources of infection, not only those which laboratory experiments show to be possible, but those which are actually operative.

So long as we were unacquainted with the living organisms causing in-

fection, the means at our disposal for studying the etiology of infectious diseases were limited to the observation of all of the circumstances which we could determine regarding the origin and spread of these diseases. We could only infer what might be the properties of the infectious agents from the study of phenomena often obscure and difficult of interpretation. Chiefly by this method of investigation the science of epidemiology has been built up. It has established facts and laws no less of practical than of scientific importance. But it has left unsolved many problems, and has filled gaps with speculations. Admitted epidemiological facts are often open to various interpretations.

We are evidently at a great advantage when we can study the epidemiological facts with a knowledge of the substances which actually cause infection, and this we are now enabled to do for a limited number of the infectious diseases. This new method of research, which thus far has been mainly bacteriological, has aided us not so much by simplifying the problems of etiology, which still remain complicated enough, as by affording greater accuracy to the results.

It is my aim in this address to consider some results of the modern studies of pathogenic micro-organisms in their bearing upon preventive medicine, more particularly upon the sources of infection. It is, of course, impossible within the limits of the address to attempt a complete survey of this important field. Time will permit the presentation of only some of the salient points.

Infectious diseases are those which are caused by the multiplication within

the body of pathogenic micro-organisms.

It has always been recognized that some infectious diseases, such as the exanthematous fevers, are conveyed directly from the sick to the healthy. It is not disputed that in these evidently contagious diseases the infectious germ is discharged from the body in a state capable at once of giving rise to infection.

In a second group of infectious diseases, of which malaria is the type, the infected individual neither transmits the disease to another person, nor, so far as we know, is capable of infecting a locality. Here there is reason to believe that the infectious germ is not thrown off in a living state from the body, but is destroyed within the body. In this group the origin of infection under natural conditions is always outside of the body.

In a third group there is still dispute whether the disease can be transmitted directly from person to person, but all are agreed that the infected individual can infect a locality. It is especially fortunate that the bacteria which cause cholera and typhoid fever, the two most important representatives of this group of so-called miasmatic-contagious diseases, have been discovered and isolated in pure culture. These are the diseases about whose origin and epidemic extension there has been the greatest controversy. They, above all other diseases, have given the impulse to public sanitation during the last half century. The degree of success with which their extension in a community is prevented is an important gauge of the excellence of the local sanitary arrangements. A clear comprehension of the origin and

spread of these diseases signifies a solution of many of the most vexed and important problems of epidemiology and of state hygiene.

It is difficult to understand how those who accept the discovery that the bacteria causing typhoid fever and cholera have been found and cultivated from the stools of patients affected with these diseases can doubt that these patients are possible sources of contagion, or can entertain the view, once so widely prevalent, that the infectious germs of these diseases are discharged from the body in a condition incapable of producing immediate infection. * * * *

But the field of operation of direct contagion for those so-called miasmatic contagious diseases is at most a restricted one, and the chief sources of infection are outside of the body from which primarily the infectious germs may have been derived. It is to these external sources of infection, which are of such importance in public hygiene, that I wish especially to direct attention.

A full comprehension of the sources of infection is, of course, to be obtained only by a detailed study of the etiology of the individual infectious diseases; but this is, of course, impossible within the limits of an address. It may, however, be useful to present some of the facts which have a general bearing upon the subject. Let us consider, then, from the point of view of modern bacteriological studies, what role in harboring or transporting infectious agents may be played by those substances or media with which we necessarily come into immediate contact, such as the air, the ground, the water and our food.

It is universally admitted that many infectious agents may be transported by the air, but the extent of danger from this source has often been exaggerated. It is a popular error to suppose that most of the minute particles of dust in the air either are or contain living organisms. The methods for determining the number and kind of bacteria and fungi in the air are now fairly satisfactory, although by no means perfect. These have shown that while the number of living bacteria and fungi in the atmosphere in and around human habitations cannot be considered small, still it is greatly inferior to that in the ground or in most waters. Unlike fungus spores, bacteria do not seem to occur to any extent in the air as single, detached particles, which would then necessarily be extremely minute, but rather in clumps or attached to particles of dust of relatively large size. As a result, in a perfectly quiet atmosphere these comparatively heavy particles which contain bacteria rapidly settle to the ground or upon underlying objects, and are easily filtered out by passing the air through porous substances, such as cotton-wool or sand. Rain washes down a large number of the bacteria from the air. That the air-bacteria are derived from the ground, or objects upon it, is shown by their total absence, as a rule, from sea-air at a distance from land, this distance naturally varying with the direction and strength of the wind.

A fact of capital importance in understanding the relations of bacteria to the air, and one of great significance for preventive medicine, is the impossibility of currents of air detaching bacteria from moist surfaces. Sub-

stances containing pathogenic bacteria, as, for instance, sputum containing tubercle bacilli, or excreta holding typhoid bacilli, cannot, therefore, infect the air unless these substances first become dry and converted into a fine powder. We are able to understand why the expired breath is free from bacteria and cannot convey infection, except as little particles may be mechanically detached by acts of coughing, sneezing or hawking. Those bacteria, the vitality of which is rapidly destroyed by complete desiccation, such as those of Asiatic cholera, evidently are not likely to be transported as infectious agents by the air, if we except such occasional occurrences as their conveyance for a short distance in spray.

The only pathogenic bacteria which hitherto have been found in the air are the pus-organisms, including the streptococcus found by Prudden in a series of cases of diphtheria and tubercle bacilli; but no far-reaching conclusions can be drawn from the failure to find other infectious organisms when we consider the imperfection of our methods and the small number of observations directed to this point. The evidence in other ways is conclusive that many infectious agents—and here the malarial germ should be prominently mentioned—can be, and often are, conveyed by the air. While we are inclined to restrict within narrower limits than has been customary the danger of infection through the air, we must recognize that this still remains an important source of infection for many diseases. All those, however, who have worked practically with the cultivation of micro-organisms have come to regard contact with

infected substances as more dangerous than exposure to the air, and the same lesson may be learned from the methods which modern surgeons have found best adapted to prevent the infection of wounds with the cosmopolitan bacteria which cause suppuration.

We are not, of course, to suppose that infectious germs floating in the form of dust in the atmosphere are dangerous only from the possibility of our drawing them in with the breath. Such germs may be deposited on substances with which we readily come into contact, or they may fall on articles of food where they may find conditions suitable for their reproduction, which cannot occur when they are suspended in the air, in consequence of the lack of moisture.

From the facts which have been mentioned concerning the relations of bacteria to the air, what points of view present themselves to guide us in preventing infection through this channel? Surely something more than that this purpose is accomplished simply by abolishing foul odors.

Certain indications are so plain as to need only to be mentioned in this connection, such as the disinfection and removal, as far as possible, of all infected substances, an indication which applies equally to all channels of infection, and which is much easier to mention than it is to describe how it shall be realized. But there are two indications which apply especially to the prevention of the transportation of disease-germs by the air. One is the necessity of guarding, so far as practicable, against the desiccation, when exposed to the air, of substances which contain infectious germs not

destroyed by drying, and another is free ventilation.

For no disease is the importance of the first of these indications so evident and so well established as for tuberculosis, the most devastating of all infectious diseases. Against this disease, formidable as it may seem to cope with it, the courageous crusade of preventive medicine has begun and is destined to continue.

It is now generally recognized that the principal, although not the sole, sources of tuberculous infection are the sputum of individuals affected with pulmonary tuberculosis and the milk of tuberculous cows. Cornet, who has made a laborious and most instructive experimental study of the modes and dangers of infection from tuberculosis sputum, has also elaborated the practical measures which should be adopted to diminish or annihilate those dangers. These measures have been so recently and so widely published in medical journals, and so clearly presented before a Section of this Association, that I mention them only to call the attention of practitioners of medicine to their importance, and to emphasize the fact that they are based chiefly upon the principle that infectious substances of such nature as tuberculosis sputum should not be allowed to become dry and converted into dust when exposed to the air.

By means of free ventilation disease-producing micro-organisms which may be present in the air of rooms are carried away and distributed so far apart that the chance of infection from this source is removed or reduced to a minimum. It is a well-established clinical observation that the distance

through which the specific microbes of such diseases as small-pox or scarlatina are likely to be carried from the patient by the air, in such concentration as to cause infection, is small, usually not more than a few feet, but increase by crowding of patients and absence of free ventilation. The well-known experiences in the prophylaxis and treatment of typhus-fever are a forcible illustration of the value of free ventilation.

It is, of course, not to be understood that by ventilation we accomplish the disinfection of a house or apartment. Ventilation is only an adjunct of such disinfection, which, as already mentioned, is of first importance. Time will not permit, nor is it in the plan of this address, to discuss the details of such questions as house disinfection, but I may be permitted to say that the methods for disinfecting apartments have been worked out upon a satisfactory experimental basis, and should be known, at least, by all public-health officers. Whether it be pertinent to this occasion or not, I cannot forbear to add my protest to that of others against placing reliance on any method hitherto employed of disinfecting houses or apartments by fumigation. And I would furthermore call attention to the lack in most cities of this country of public disinfecting establishments such as are in use with excellent results in most cities of Europe, and which are indispensable for the thorough and convenient disinfection of clothing, bedding, carpets, curtains, etc.

After this short digression, let us pass from the consideration of the air as a carrier of infection to another important external source of infection,

namely, the ground. That the prevalence of many infectious diseases depends upon conditions pertaining to the soil cannot be questioned; but the nature and the extent of this influence have been and are the subjects of lively discussion. The epidemiological school led by Pettenkofer assigns, as is well-known, to the ground the chief, and even a specific and indispensable influence, in the spread of many epidemic diseases, particularly cholera and typhoid fever. The statistics, studies and speculations of epidemiologists relating to this subject probably surpass in number and extent those concerning any other epidemiological factor. The exclusive ground-hypothesis has become an ingenious and carefully elaborated doctrine with those who believe that such diseases as cholera and typhoid fever can never be transmitted by contagion. These authorities cling to this doctrine with a tenacity which indicates that on it depends the survival of the exclusively localistic dogma for these diseases.

To all who have not held aloof from modern bacteriological investigations it must be clear that views which have widely prevailed concerning the relations of many infectious germs to the soil require revision. The question is still a difficult and perplexing one, but on some hitherto obscure or misunderstood points these investigations have shed light, and from the same source we may expect further important contributions to a comprehension of the relations of the ground to the development of infectious diseases.

The ground, unlike the air, is the resting or the breeding-place of a vast number of species of micro-organisms,

including some which are pathogenic. Instead of a few bacteria or fungi in a litre, as with the air, we find in most specimens of earth thousands, and often hundreds of thousands, of micro-organisms in a cubic centimetre. Fraenkel found the virgin soil almost as rich in bacteria and fungi as that around human habitations. This vast richness in micro-organisms belongs, however, only to the superficial layers of the earth. Where the ground has not been greatly disturbed by human hands there is, as a rule, about three to five feet below the surface an abrupt diminution in the number of living organisms, and at the depth where the subsoil water usually lies bacteria and fungi have nearly or entirely disappeared. Fraenkel, who first observed this sudden diminution in the number of micro-organisms at a certain level beneath the surface, explains this singular fact by the formation at this level of that sticky accumulation of fine particles, consisting largely of bacteria, which forms the efficient layer in large sand-filters for water. Of course, the number of bacteria and the depth to which they penetrate will vary somewhat with the character, especially the porosity of the soil and its treatment; but the important fact that all, or nearly all, of the bacteria and fungi are retained in the ground above the level of the subsoil water will doubtless hold true for most situations.

The conditions are not favorable for the multiplication of bacteria in the depth of the ground, as is shown by the fact that in specimens of earth brought to the surface from a depth of a few feet, the bacteria which are at first present rapidly multiply. What

all of the conditions are which prevent the reproduction of bacteria in the deep soil has not been ascertained, but the fact necessitates similar precautions in the bacteriological examination of the soil as in that of water.

We have but meager information as to the kinds of bacteria present in the ground in comparison with their vast number. Many of those which have been isolated and studied in pure culture possess but little interest for us, so far as we know. To some of the micro-organisms in the soil appears to be assigned the role of reducing or of oxidizing highly organized substances to the simple forms required for the nutrition of plants. We are in the habit of considering so much the injurious bacteria that it is pleasant to contemplate this beneficent function so essential to the preservation of life on this globe.

Among the pathogenic bacteria which have their natural home in the soil the most widely distributed are the bacilli of malignant oedema and those of tetanus. I have found some garden-earth in Baltimore extremely rich in tetanus bacilli, so that the inoculation of animals in the laboratory with small bits of this earth rarely fails to produce tetanus. In infected localities the anthrax bacillus, and in two instances the typhoid bacillus, so far as it was possible to identify it, have been discovered in the earth. There is reason to believe that other germs infectious to human beings may have their abiding-place in the ground; certainly no one doubts that the malarial germ lives there. As the malarial germ has been shown to be an organism entirely different from the bacteria and the fungi, we cannot apply

directly to its behavior in the soil, and its transportation by the air, facts which have been ascertained only for the latter species of micro-organisms, and the same precautions must be observed for other diseases with whose agents of infection we are not acquainted; as, for instance, yellow fever.

In view of the facility with which infectious germs derived from human beings or animals may gain access to the soil, it becomes a matter of great importance to determine how far such germs find in the soil conditions favorable for their preservation or their growth. We have, as is well known, a number of epidemiological observations bearing upon this subject, but with few exceptions these can be variously interpreted, and it is not my purpose to discuss them. The more exact bacteriological methods can, of course, be applied only to the comparatively small number of infectious diseases, the causative germs of which have been isolated and cultivated, and these methods hitherto have been applied to this question only imperfectly. We cannot regard the soil as a definite and unvarying substance in its chemical, physical and biological properties. What has been found true of one kind of soil may not be so of another. Moreover, we cannot in our experiments, bring together all of the conditions in nature which may have a bearing on the behavior of specific micro-organisms in the soil. We must, therefore, be cautious in coming to positive conclusions on this point on the basis of experiments, especially those with negative results. With these cautions kept constantly in mind, the question, however, is one

eminently open to experimental study.

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Of greater interest to physicians is the behavior of typhoid and of cholera bacteria in the ground. As has already been intimated, the ground is regarded by Pettenkofer and his school as the principal breeding-place of these micro-organisms outside of the body. This view, however, is not supported by bacteriological investigations. Inasmuch as the cholera and typhoid bacilli may multiply on various vegetable substrata and substances derived from animals at temperatures often present in the ground, it is evident that here and there conditions may be present for their growth in the ground, but this growth is likely to be soon interrupted by the invasion of ordinary saprophytic organism and other harmful influences. The typhoid bacilli are more hardy in resisting these invaders than are the cholera bacteria, which easily succumb, but even for the former, so far as our present knowledge extends, the ground can rarely serve as a favorable breeding-place.

It is not, however, necessary that these organisms should multiply in order to infect for a considerable time the ground; it is sufficient if their vitality is preserved. As to this latter point, the reports of different investigators are not altogether concordant. Such excellent observers as Koch, Kitasato, and Uffelman found that the cholera bacteria, when added to fæces, or a mixture of fæces and urine, rapidly diminished in number, and at the end of three or four days, at the most, had wholly disappeared. In a mixture of the intestinal contents from a

cholera corpse with earth and water, Koch found numerous cholera bacteria at the end of three days, but none at the end of five days. On the other hand, Gruber reports the detection of cholera bacteria in cholera dejecta fifteen days old. The weight of bacteriological evidence, therefore, is opposed to the supposition that the bacteria of Asiatic cholera preserve their vitality for any considerable time in the ground or in the excreta.

With respect to the bacilli which cause typhoid fever, it has been shown by Uffelmann that these may live in fæces, a mixture of fæces and urine, and a mixture of garden earth, fæces and urine for at least four and five months, and doubtless longer, although they may die at the end of a shorter period. He also finds that under these apparently unfavorable conditions some multiplication of the bacilli may occur, although not to any considerable extent. Grancher and Deschamps found that typhoid bacilli may live in the soil for at least five months and a half. Unlike the cholera bacteria, therefore, the typhoid bacilli may exist for months at least in the ground and in fecal matter, holding their own against the growth of multitudes of saprophytes. This difference in the behavior of cholera and of typhoid germs is in harmony with clinical experience.

As regards other infectious bacteria than those which have been considered, I shall only mention that tubercle bacilli, although incapable of multiplication under the ordinary conditions of nature outside of the body, may preserve their vitality for a long period in the ground, on account of their resistant character, and, further-

more, that the pyogenic cocci, on account of their considerably resistant nature and their modest demands in the way of nutriment, can be preserved and sometimes probably grow in the ground. Indeed, the *staphylococcus pyogenes aureus* has been found in the earth by Lubbert.

The conclusion which we may draw from the observations mentioned is this, in general, the soil is not a good breeding-place for most of the infectious bacteria with which we are acquainted, but that it can retain for a long time with unimpaired vitality those which produce spores or which offer considerable resistance to injurious agencies, such as anthrax bacilli, typhoid bacilli, tubercle bacilli and the pyogenic cocci.

In order to become infected with bacteria in or on the ground, these bacteria must in some way be introduced into the body, and we must, therefore, now attempt to determine how bacteria may be transported to us from the ground. So various and intricate are the possibilities for this transportation that it is hopeless to attempt to specify them all.

There occurs to us, first, the possibility of the conveyance of infectious micro-organisms from the soil by means of currents of air—a mode of carrying infection which has already been considered. Here I shall only repeat that the wind can remove bacteria from the ground only when the surface is dry and presents particles of dust, and that the sole, perhaps the chief, danger is not that we may inhale the infected dust.

Manifold are the ways in which we may be brought into contact with infectious bacteria in the ground, either

directly or by means of vegetables to which particles of earth are attached, by the intervention of domestic animals, by the medium of flies or other insects, and in a variety of other ways, more or less apparent.

An important, doubtless for some diseases the most important, medium of transportation of bacteria from an infected soil is the water which we drink or use for domestic purposes. From what has been said, it is evidently not the subsoil water which is dangerous, for infectious, like other bacteria, cannot generally reach this in a living state, but the danger is from the surface water, and from that which trickles through the upper layers of the ground, as well as from that which escapes from defective drains, gutters, cesspools, privy-vaults and wrongly constructed sewers or improper disposal of sewage. I shall have something to say presently of water as a source of infection, and shall not further elaborate here the dangers of infection of drinking-water through contaminated soil; dangers which, especially as regards typhoid fever, are widely appreciated in this country, even if often imperfectly counteracted. * * * *

Regarding the depth to which typhoid bacilli may penetrate in the soil, the experiments of Grancher and Deschamps show that at the end of five weeks they may reach a depth of sixteen to twenty inches below the surface. As Hoffmann has demonstrated the extraordinary slowness with which fluids and fine particles penetrate the soil, it is probable that in the course of time a greater depth than this may be reached. Indeed, Mace claims to have found in the

neighborhood of a well, suspected of infection, typhoid bacilli, together with ordinary intestinal bacteria, at a depth of at least six and a half feet below the surface. There are a number of instances recorded in which there is good reason to believe that turning up the soil, and cleaning out privies or dung-heaps in which typhoid stools have been thrown, have given rise to typhoid fever, even after the infectious excreta have remained there a year and more. * * *

Before leaving the subject of the ground as a source of infection, permit me to indicate briefly some conclusions which may be drawn from what has been said, as to the principles which should guide us in preventing infection, directly or indirectly, from the ground.

First in importance is to keep infectious substances as far as possible from the ground. This implies the early disinfection or destruction of such substances as typhoid and cholera excreta and tuberculous sputum.

Second, the ground should be rendered, so far as practicable, unsuitable for the continued existence of infectious germs. This, at least for some diseases, is accomplished by a proper system of drainage, which, moreover, for other reasons, possesses hygienic importance.

Third, means should be provided to prevent waste products from getting into the ground around human habitations, or from gaining access to water used for drinking or domestic purposes. In cities this can be accomplished only by a properly constructed system of sewers. The system of storing waste products in cesspools, whence they are to be occasionally removed, cannot be

approved on hygienic grounds. There are conditions in which the disposal of waste products in deep wells only used for this purpose, and whence these products can filter into the deep layers of the ground, may be permissible, but this can never be considered an ideal method of getting rid of excrementitious substances, and is wholly wrong in regions where wells are used for drinking-water. But I am trespassing with these remarks upon a province which does not belong to me, but rather to practical sanitarians and engineers. I shall only add that the advantage gained by preventing organic waste from soaking into the ground is not so much that the ground is thereby rendered better adapted for the existence of infectious micro-organisms, but is due rather to the fact that this waste is likely to contain infectious germs.

Finally, in cities, good pavements, absence of unnecessary disturbance of the soil, cleanliness of the streets, and laying of dust by sprinkling are not only conducive to comfort but are sometimes hygienically important in preventing infection from the ground and dust.

In passing from the consideration of the ground to that of water, one feels that he now has to do with a possible source of infection against which, in this country and in England, he is at liberty to make any accusation he chooses without fear of contradiction. There is reason to believe that such accusation has been repeatedly made, without any proof of misdemeanor on the part of the water. It is not, therefore, with any desire to awaken further the medical or the public conscience that I wish to say a

few words concerning the behavior of bacteria in water, and the dangers of infection from this source. That such dangers are very real must be apparent when we consider the universal employment of water, and its exposure to contamination from all kinds of sources.

Ordinary water, as well known, contains bacteria in large number. Not a few species of bacteria can multiply rapidly, and to a large amount, even in distilled water. These are the so-called water-bacteria, and, like most of the micro-organisms found in ordinary drinking-water, are perfectly harmless saprophytes. What we wish to know is, how pathogenic micro-organisms conduct themselves in water. Can they grow, or be preserved for any length of time in a living condition in water? As regards the multiplication of pathogenic bacteria in water, the results of different experimenters do not altogether agree: Whereas Bolton failed to find any growth, but rather a progressive diminution, in number of pathogenic bacteria planted in sterilized water, Wolffhugel and Riedel observed a limited reproduction of such bacteria, including those of typhoid fever and of cholera. This difference is due probably to the methods of experimentation employed. According to Kraus, these latter bacteria diminish rapidly in number in unsterilized spring or well water kept at a low temperature. These experiments indicate that water, even when contaminated with more organic impurities than are likely ever to be present in drinking-water, is not a favorable breeding-place for pathogenic bacteria. Still it is to be remembered that these

laboratory experiments do not reproduce exactly all of the conditions in nature, and it may happen that in some nook or cranny, or vegetable deposit at the side of a well or stream, some pathogenic bacteria may find suitable conditions for their multiplication.

But, as has been repeatedly emphasized in this address, it is not necessary that pathogenic bacteria should actually multiply in a medium in order to render it infectious. It is sufficient if their life and virulence are not destroyed in a very short time. As to this important point Bolton found that in sterilized water typhoid bacilli may preserve their vitality for over three months, and cholera bacteria for eight to fourteen days, while Wolffhugel and Riedel preserved the latter in water for about eight days. Under natural conditions, however, these organisms are exposed to the overgrowth of the water bacteria, so that Kraus found in unsterilized water kept at a temperature of 10.5° C. the typhoid bacilli no longer demonstrable after seven days, and the cholera bacteria after two days. The conditions in Kraus' experiments were as unfavorable as possible for the continued existence of these pathogenic bacteria, more unfavorable than those often present at the season of prevalence of cholera and typhoid fever; nevertheless I do not see that they justify the conclusions of Kraus as to the slight probability of drinking-water ever conveying infection with the germs of typhoid fever and of cholera. To render such a conclusion probable it would be necessary to demonstrate a much shorter preservation than even Kraus himself

found. In judging this question it should not be overlooked that infection of drinking-water with the typhoid or the cholera germs is not so often the result of throwing typhoid or cholera stools directly into the source of water-supply as it is the consequence of leaky drains, cesspools, privy-vaults, or infected soil, so that there may be continued or repeated accessions of infected material to the water.

In view of the facts presented, there is no sufficient reason, therefore, from a bacteriological point of view, of rejecting the transmissibility of typhoid fever and cholera by the medium of the drinking-water.* This conclusion seems irresistible when we call to mind that Koch once found the cholera bacteria in large numbers in the water of a tank of India, and that the typhoid bacilli had been repeatedly found in drinking-water of localities where typhoid fever existed. Nor do I see how it is possible to interpret certain epidemiological facts in any other way than by assuming that these diseases can be contracted from infected drinking-water, although* I know that there are still high authorities who obstinately refuse to accept this interpretation of the facts.

In this connection it may be mentioned that pathogenic bacteria may preserve their vitality longer in ice than in unsterilized drinking-water. Thus Prudden found typhoid bacilli still alive which had been contained in ice for one hundred and three days.

When we come to consider the ways in which water may become infected with pathogenic micro-organisms we recognize at once a distinction in this respect between surface-water and subsoil-water. Whereas the subsoil-

water may be regarded under ordinary circumstances and in most places as germ-free, the surface-water, such as that in rivers and streams, is exposed to all manner of infection from the ground, the air, and the direct admission of waste substances. Unfortunately, in the ordinary way of obtaining subsoil-water for drinking purposes by means of dug wells, this distinction is obliterated, for the water which enters these wells free from bacteria is converted into a surface-water often exposed, by the situation of the well, to more dangerous contamination than other surface-waters used for drinking purposes.

Now let us turn our attention, as we have done with other sources of infection, to a brief outline of certain general principles which may help us in avoiding infection from the water.

We shall, in the first place, avoid, so far as possible, the use of water suspected of infection, especially with the germs of such diseases as typhoid fever and cholera. When it is necessary to use this suspected water it should be boiled.

As regards the vital question of water-supply, it may be stated as a general principle that no hygienic guarantee can be given for the purity of surface-water which has not been subjected to a proper system of filtration, or for the purity of spring or well-water fed from the subsoil, unless such water is protected from the possibility of infection through the upper layers of the soil or from the air. This is not saying that water which meets certain chemical and biological tests, and which is so situated that the opportunities for its contamination appear to be absent or reduced to a

minimum, is not admissible for the supply of drinking-water, but the possibility of infection can be removed only by the fulfillment of the conditions just named, and upon these conditions the hygienic purist will always insist.

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I have already taxed so largely your time and patience that I must pass over with brief mention the food as a source of infection. Unlike those external sources of infection which we have hitherto considered, many articles of food afford an excellent nutritive medium for the growth of a number of species of pathogenic micro-organisms, and in many instances this growth may be abundant without appreciable change in the appearance or taste of the food.

When we consider in how large a degree the certainty and the severity of infection with many kinds of pathogenic micro-organisms depend upon the number of such organisms received into the body, we can appreciate that the danger of infection from food which contains a mass of growing pathogenic bacteria may be much greater than that resulting from the reception of infected water or air, media in which infectious organisms are rarely present in other than a very dilute condition. The entrance into the body of a single infectious bacterium with the inspired air is, at least in the case of many diseases, not likely to cause infection; but let this bacterium fall upon some article of food, as, for instance, milk, where it can multiply in a short time at a favorable temperature many thousand-fold, and evidently the chances of infection become vastly increased.

Among the various agencies by

which infectious organisms may gain access to the food may be mentioned the deposition of dust conveyed by the air, earth adhering to vegetables, water used in mixing with or in the preparation of food, in cleansing dishes, cloths, etc., and contact in manifold other ways with infected substances.

Fortunately a very large part of our food is sterilized in the process of cooking shortly before it is partaken, so that the danger of infection from this source is greatly diminished, and comes into consideration only for uncooked or partly cooked food, and for food which, although it may have been thoroughly sterilized by heat, is allowed to stand for some time before it is used. Milk, in consequence of its extensive use in an unsterilized state, and of the excellent nutritive conditions which it presents to many pathogenic bacteria, should be emphasized as especially liable to convey certain kinds of infection, a fact supported not less by bacteriological than by clinical observations. Hesse found that also a large number of ordinary articles of food, prepared in the kitchen in the usual way for the table, and then sterilized, afford a good medium for the growth and preservation of typhoid and cholera bacteria, frequently without appreciable change in the appearance of the food.

Upon solid articles of food bacteria may multiply in separate colonies, so that it may readily happen that only one or two of those who partake of the food eat the infected part, whereas with infected liquids, such as milk, the infection is more likely to be transmitted to a larger number of those who are exposed.

In another important particular the

food differs from the other sources of infection which we have considered. Not only the growth of infectious bacteria, but also that of bacteria incapable of multiplication within the the body may give rise in milk and other kinds of food to various ptomaines, products of fermentation, and other injurious substances, which, when injected, are likely to cause more or less severe intoxication, or to render the alimentary tract, more susceptible to the invasion and multiplication of genuinely infectious organisms.

It is plain that the liability to infection from food will vary according to locality and season. In some places and among some races the proportion of uncooked food used is much greater than in other places and among other races. In general, in summer and in autumn the quantity of fruit and food ingested in the raw state is greater than at other seasons, and during the summer and autumn there is also greater danger from the transportation of disease germs from the ground in the form of dust, and the amount of liquids imbibed is greater. The elements of predisposition, according to place and time, upon which epidemiologists are so fond of laying stress, are not, therefore, absent from the source of infection now under consideration.

I have thus far spoken only of the secondary infection of food by pathogenic micro-organisms, but, as is well known, the substances used for food may be primarily infected. Chief in importance in the latter category are the various entozoa and other parasites which infest animals slaughtered for food. The dangers to mankind resulting from the diseases of animals form a separate theme, which would

require more time and space than this address affords for their proper consideration. I shall content myself on this occasion with only a brief reference to infection from the milk and flesh of tuberculous cattle.

It has been abundantly demonstrated by numerous experiments that the milk from tuberculous cows is capable, when ingested, of causing tuberculosis. How serious is this danger may be seen from the statistics of Bollinger, who found with cows affected with extensive tuberculosis the milk infectious in eighty per cent. of the cases; in cows with moderate tuberculosis the milk infectious in sixty-six per cent. of the cases; and in cows with slight tuberculosis the milk infectious in thirty-three per cent. of the cases. Dilution of the infected milk with other milk, or with water, diminished, or, in sufficient degree, it removed the danger of infection. Bollinger estimates that at least five per cent. of the cows are tuberculous. From statistics furnished me by Mr. A. W. Clement, V.S., it appears that the number of tuberculous cows in Baltimore which are slaughtered is not less than three to four per cent. Among some breeds of cattle tuberculosis is known to be much more prevalent than this.

There is no evidence that the meat of tuberculous cattle contains tubercle bacilli in sufficient number to convey infection, unless it be very exceptionally. Nevertheless one will not willingly consume meat from an animal known to be tuberculous. This instinctive repugnance, as well as the possibility of post-mortem infection of the meat in dressing the animal, seem to be good ground for discarding

such meat. The question, however, as to the rejection of meat of tuberculous animals has important economic bearings and has not been entirely settled. As to the rejection of the milk from such animals, however, there can be no difference of opinion, although this is a point not easily controlled.

The practical measures to adopt in order to avoid infection from the food are, for the most part, sufficiently obvious. Still, it is not to be expected that every possibility of infection from this source will be avoided. It is difficult to discuss the matters considered in this address without seeming to pose as an alarmist. But it is the superficial and half knowledge of these subjects which is most likely to exaggerate the dangers. While one will not under ordinary circumstances refrain from eating raw fruit or food which has not been thoroughly sterilized, or from using unboiled or natural waters in the fear that he may swallow typhoid or cholera bacteria, still, in a locality infected with cholera or typhoid fever, he will, if wise, not allow himself the same freedom in these respects. Cow's milk, unless its source can be carefully controlled, should, when used as an habitual article of diet, as with infants, be boiled, or the mixed milk of a number of cows should be selected; but this latter precaution offers less protection than the former. * * * *

Medical Record.

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"JOSH BILLINGS" once said "It's a good deal better to know nothing than something that ain't so."

HABITUAL USE OF DRUGS.

BY DR. BROWN.

It is so easy to be led as it were unconsciously into the habitual use of drugs of almost any description if we think they afford us any relief from our afflictions. But the system tends to become inured by constant use, to the presence of the drug in the circulation, and is not affected by it to the same extent as at the first. So that in order to get the effect the dose has to be increased. It is remarkable what quantities can be taken of the most powerful poisons by gradually increasing the dose as the individual becomes accustomed to its effects. This is shown in the instance of the arsenic eaters of Styria and Southern Austria. They commence taking it very early in life; they take it to give themselves greater breathing-power and strength. After a while they can take enormous doses and must do so to get the results. Doses that would kill a person not habituated to it.

Although the system can be made to tolerate such things, yet it is at the sacrifice of its good condition. It has to pay a fearful price for the little service rendered. It is not good practice to continue the administration of any one medicine for too long a period, but particularly can we say this of narcotics and stimulants. They engender a craving of the appetite that becomes almost irresistible, and the good effects that were realized in the beginning are more than counterbalanced by the disastrous results that come from continued use. Let the regulation of the diet, habits of life and hygienic surroundings be our dependence.

Salt Lake Sanitarian

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Devoted to the prevention and cure of diseases and injuries, and the promulgation of the laws of health and life.

M. B. SHIPP, M. D., EDITOR.

SALT LAKE CITY, OCTOBER, 1889.

EDITORIAL.

NARCOTICS.

The common use by the masses of those drugs that have a narcotic influence or effect upon the system is greatly upon the increase. It is almost a question whether the race in its advanced civilization of today is the greater sufferer from the use of opium and its allies or alcohol and its kindred forces. To be sure, we do not see the brutal effects following the insidious attack of a narcotic that is manifest in the fiery onslaught of an alcoholic stimulant, yet the ultimate destruction of the unfortunate victim is as certain in the one case as the other. There can be no question but that there are times and occasions when such drugs are of inestimable value, and we wonder how we got along without them before their properties were discovered. It is the abuse of such things brings our misery.

However, it is the proper and intelligent use of those remedies that possess narcotic properties, especially the power to relieve pain, that engages our attention at the present time. There are different drugs that are used in medicine to allay excitement and quiet the patient, notably the bromides, but for the purposes of relieving pain there

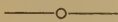
is nothing found in the *Materia Medica* that will compare with opium and its preparations in this direction.

Opium is the concrete juice obtained from the unripe capsules of the poppy plant by incision and spontaneous evaporation. This forms a gummy substance, the crude opium of commerce. Smugglers exercise their best talents in smuggling this article into different countries where the tariff upon it is high, and the success that attends their risk yields handsome profits. The value of opium depends upon the quantity of morphia it contains. The crude drug is not usually administered to the sick, but some one of the various preparations that are made from opium. The forms of the drug that are commonly used are the tincture of opium (*laudanum*), camphorated tincture of opium (*paregoric*), compound powder of *ipécacuanha* (*Dover's powder*) and *morphine*. In some cases of sickness attended by great restlessness, where the patient is unable to obtain rest and sleep, the bromides render efficient service. The dose to be given may be 10 grs. to 15 grs. of the bromide of potassium or sodium, and may be repeated after an hour if the patient should not quiet down.

Laudanum is very commonly used in domestic practice in "looseness of the bowels." In such affections it is the better plan, where the trouble arises from the presence in the bowels of irritating aliments, to precede the use of the opium with some mild salines, as a "dose of salts" or *rhubarb*, to be followed after the action of the cathartic by a dose of 10 to 20 drops of *laudanum*. In the colic of infants it is better to use a few drops of *pare-*

goric, 2 to 5 drops, rather than resort to the use of any of the various cordials and syrups offered for sale. The only virtue they may possess is the opium they contain. The continuous dosing of small children with these medicines is a very bad practice, it should be the last resort—when warm external applications have failed. In the beginning of a severe cold, if the individual would take on going to bed a full dose of Dover's powder, 10 grs., it would abort the attack in most cases. A foot-bath in hot water, with mustard added, should be taken at the same time to stimulate the circulation in the extremities.

For the relief of pain is the great indication for the use of opium. Morphine is the form of the drug that is best to employ. To use it hypodermatically gives the quickest and best effect. The difficulty or bad results that are liable to follow the frequent dosing with morphine, is the forming of the "opium habit." On account of the tendency in this direction where the outcome is so disastrous, great caution should be observed in the use of narcotics in any form. The habit is more enslaving than that which follows the use of intoxicants. Let only a palpable necessity justify the administration of a narcotic.



Young Man: Is it true, doctor, that smoking cigarettes tends to soften the brain?

Doctor: There is a belief to that effect, but with all our boasted modern scientific appliances, it cannot be verified.

Young Man: Why not, doctor?

Doctor: Because nobody with brains ever smokes them.

INCONTINENCE OF URINE IN CHILDREN.

BY SAMUEL S. ADAMS, A.M., M.D.

Lecture on Diseases of Children, Medical Department, University of Georgetown, D.C.

How a subject of as much importance as this should have so long escaped presentation and discussion before the American Medical Association is surprising; but the fact exists that it never has been presented to this body and for that reason I have chosen it.

There is not much importance attached to the history of the disease. With the assistance of Drs. Kolipinski and McARDLE, of this city, I have examined all the literature on the subject from 1784 to the present including articles in German, French, Italian, and Spanish. In 1784 Mitchell wrote on the disease as clearly as any subsequent author, and its pathology was as well understood then as now. The tendency at that time was to let it alone with a hope that puberty would restore the function of the bladder.

From birth the child instinctively voids its urine and we take it for granted that the act is reflex. But with the evolution of the teeth, speech begins, intelligence is developing, and we expect the will to control the sphincter vesicæ. The rule is that about the eighteenth month the child is taught to exercise complete control over the sphincter. If after this age the urine is passed involuntarily the tendency is to attribute the disgusting act rather to carelessness than to a pathological state, which to my mind is an injustice to the child. From observation and the supervision over children of every condition of life I am loath to accept this conclusion, and

am proud to state that all the cases which have come under my observation have had specific causes, and were not the effects of laziness. So believing, as I do, in a pathological state, it delights me to attempt this defence of the long-abused unfortunate.

Many a child has been repeatedly and unmercifully punished for wetting his clothes or bed in the face of repeated protestations that he could not help it. The disease and punishment go on together until the patient becomes such an object of disgust to himself and his family that they are impelled to seek professional advice. Then the parents learn that they have been chastening their child, perhaps for years, for a fault which was the result of disease, and therefore uncontrollable, when they would have quickly resented a just punishment, if administered by some one else, for a real fault less offensive in its character.

Again there were others who, while they believe the act involuntary, will let it run on for years with the hope that education and the inclination of habits of cleanliness will effect a cure, or that their only hope for relief is in the establishment of puberty.

The child instinctively becomes neat and seeks the proper time and place to empty its bladder, and I am unwilling to admit that it ever deliberately soils its clothes after it has once been taught to use the vessel. None of the brute creation will lie in their urine if they are not tied or penned; then why do we attribute this practice in the rational being to laziness? Simply because some are not able, by a careless and superficial examination, to find the cause, and

well knowing that their reputations will be at stake if they do not account for the act, they too often condemn the helpless child to daily floggings. There must be a pathological condition to account for an act that makes nature an abhorrence to herself, and it is our duty to seek diligently for it, remove it, and thus transmute the filthy child into the cleanly.

But in too many cases the act continues untreated, in spite of punishments and the jeers of companions, until well-marked psychical changes take place. The child, bright and cheerful by nature, soon loses his vivacity; shrinks from the presence of his companions, becomes morose and spiteful, pale and haggard, restless and nervous; will not look you in the face; and with chin depressed and upper lids drooping presents, indeed, a striking likeness to the onanist.

We generally find the disease divided into three varieties. In the first class the subjects suffer from constant dribbling of urine day and night. This variety is infrequent, and when found it is usually associated with some serious pathological state. I have met with but two cases of this kind, in boys about eight years of age, who for several years had been unable to retain their water; examination revealed a vesical calculus in each case which, being removed, the function of the bladder became normal.

A second class comprises those whose incontinence is intermittent in character, and occurs in the day as well as at night. We find that in this class the urine is retained for a short time during the day, when the desire to void comes, but before the child reaches a convenient place the

sphincter is overcome and the poor child is powerless to stop the flow. This is the form usually met with in the girl. In fact the histories of those I have seen have been that the girl would suddenly be taken with a desire to urinate, while in school or on the street, but before they could reach a closet the power of control gave way. The cause in these cases was found to be vulvitis or urethritis as a result of the irritation from ascarides in the vagina.

But the third class is the one that interests us most because of its frequency in both sexes, its nocturnal character, its possible concealment for years, and the promptness with which it yields to treatment. It is the children of this class who are so frequently punished for bed-wetting when they are as powerless to control the sphincter during the night as are those of the two preceding classes during the day. They may, and usually do, urinate before retiring, and yet about midnight, during a profound sleep, the urine is passed again; or it may be that the night is passed without the accident, but just before rising in the morning the contents of a full bladder are involuntarily set free. Patients of this class generally dream of urinating. Again, we meet with cases where the cause is obscure, but, nevertheless, the nocturnal incontinence occasionally takes place. In these patients I attribute the accident to causes that favor a perfectly physiological process in the adult. We well know that late suppers, rich food, wines, certain positions during repose, profound sleep, amorous or lascivious dreams, and many such causes produce a nocturnal pollution

in the adult, and I am convinced that the same causes excite a similar irritation in the child; but, instead of the seminal discharge, the physiological process of which is not yet established, the bladder is emptied. In each instance the discharge is the result of a conservative process of nature to relieve the irritation. Indeed, this theory seems the more plausible because in many instances the nocturnal bed-wetting goes on undisturbed until the full establishment of the sexual functions, when the enuresis is superseded by nocturnal pollutions. This theory is also tenable because most of the remedies which cure the adult of his complaint very quickly relieve the child of its.

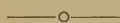
The disease is more frequent than the statistics of hospitals would seem to indicate, for the greater number of cases go untreated until spontaneous cure is reached. The probability is, it is not always differentiated and recorded as a distinct disease, since in the statistics I have examined it seems to have occurred 46 times in 15,169 children treated at the Children's Hospital, District of Columbia; five times in 2,058 at the Children's Hospital of Boston, and four times in 2,034 at the Children's Hospital of Philadelphia, or 55 times in 19,261 sick children.

It most frequently exists in children between eight and twelve years, but may occur at any time between two years and puberty. It is common to both sexes, white and black.

Trousseau was the first to trace a relationship between incontinence and epilepsy, claiming that in rare instances one succeeded the other, and that these histories always pointed to

the transmission of one of the neu-
roses.

Some writers claim that there is a reflex relation between hip-disease and nocturnal incontinence, but the records of the Children's Hospital of this city, where a great many cases of hip-disease are treated annually, do not accord with this statement.—*American Journal of Obstetrics and diseases of Children.*



CORPORAL DISINFECTION IN SCARLET FEVER AS A PRE- VENTIVE MEASURE TO ITS SPREAD.

BY L. MERVIN MAUS, M. D.,
U. S. Army.

Notwithstanding the elaborate systems authorized and in force by National, State and Municipal Boards of Health for the prevention of contagious diseases, it is only necessary to glance at the daily mortuary reports published throughout the country to note their general inefficiency. Though unsatisfactory in many particulars, public hygiene has done much to lessen at the present day the pestiferential burdens with which humanity has been afflicted from the remotest antiquity. Small-pox, rightfully regarded at one time as the most fatal of the exanthemata, has sunk into comparative insignificance through the beneficence of vaccination. Typhus, ship or jail fever has long since been relegated to the shades of the past through an intelligent appreciation of ventilation and necessary air-space; while its congener, typhoid fever, whose infective germ is most probably conveyed by a poisoned water-supply,

may later on share a similar fate. Yellow and scarlet fevers, diphtheria and measles continue, however, to defy the futile efforts of modern sanitation, and still present a bold front in the midst of our most advanced and enlightened civilization. In view of the recent strides in the etiology of disease a more flattering prospect for the eventual subjugation of all infectious diseases by human intelligence lies before us. It has been satisfactorily established that scarlet fever does not originate *de novo* from certain atmospheric or telluric conditions, but is produced by a definite specific principle carried about from place to place. Many countries have been entirely free from it for centuries. It was not known in Europe until 1557, when it was introduced through the gates of Asia, nor did it make its appearance in America until 1735, when it was observed in New Hampshire. So slowly did the infection travel that it did not cross the Hudson River until eighty years later, nor appear as far south as North Carolina until 1830. Dr. Rush said, sixty years ago, that a physician would not likely see more than one case during a lifetime.

While the etiology of scarlet fever has not been thoroughly established by bacteriological investigation, yet there is a general professional concession that it originates from a specific germ, and that susceptibility to it is greatest during the period of desquamation, or when the detached cuticle is broken up and floats through the atmosphere laden down, as it were, with the infectious microbe. There is a unity, also, among the profession as to the method of its dissemination, all agreeing, as a rule, that the poison

enters through the respiratory system, though, in a few instances, cases have been supposed to result from the ingestion of food, milk or water containing the germ or infection; the latter may be probable, but is more than likely rare.

Scarlet fever may be communicated directly or indirectly; by personal contagion, or through the agency of infected clothing, books, letters, toys, hair or other articles exposed to it. When it is communicated by personal contagion, the distance is usually limited to three feet or less. The non-susceptibility of many persons when exposed to this disease, is most probably due to an accidental escape from inhaling air containing the germs. Familiar as we have been for many years past with the propagation and spread of scarlet fever, it seems rather strange that no effective system has been devised heretofore for its prevention. So far, instead of endeavoring to destroy the infection by chemical or germicidal measures, we have been satisfied with the more cowardly course of locking up or quarantining it; and consequently the individual who recovered from the disease was commonly sentenced to a dreary confinement of from four to eight weeks.

It seems quite rational to presume that a scarlatinous patient is surrounded by an atmosphere contaminated with the infectious microbe, since we know that an approach within a few feet or less of the patient is necessary to contract the disease by personal contagion. If this be true, we certainly are warranted in supposing that constant inhalation of this poisoned air is liable to increase the severity of the attack, and to keep up,

as it were, a constant auto-infection. In view of this fact, it seems to me that a system of daily bodily disinfection would not only destroy the germs so as to prevent the spread of the disease to others, but would be a useful adjuvant to the treatment, inasmuch as through these applications the skin could be kept free from the poison, as well as the atmosphere the patient is compelled to breathe. This practice does away, in my opinion, with the necessity of prolonged isolation commonly enforced. So well am I satisfied with thorough and complete disinfection in scarlet fever, that I believe we can ignore isolation altogether in the mild cases, and ordinarily permit patients to join the family circle in ten days to two weeks—as a matter of course, the severity of the attack and the condition of the invalid being considered.

In presenting the following brief rules as preventive measures to the spread of this disease, I can say that this practice has been founded on personal experience, so far entirely satisfactory; I believe also that this treatment would be successful in the other exanthemata as a preventive measure.

1. Sponge the patient thoroughly morning and evening with a tepid solution of corrosive sublimate, 4 to 1,000, as soon as the eruption makes its appearance.

2. Wash the hair once daily with a solution of the corrosive sublimate, of the same strength, and also a solution of borax, 1 to 250.

3. Disinfect the uriné, fæces and expectoration, also the discharge from the ears and nose, if there be any. A solution of the bichloride, 1 to 1,000, is best for this purpose.

4. As soon as the patient is permitted to leave the bed have the body washed with warm water and soap, then sponged with the 1 to 4,000 bichloride solution, wiped dry, and anointed with the following ointment:

R. Sodii biboratis,
Zinci oxidi. . . aa ʒ iv.
Ol. gaultheriæ . . ʒ ss.
Vaseline . . . ʒ iv.

The hair should be thoroughly washed with the bichloride and borax solution.

5. The patient is then to be enveloped in fresh and clean clothes throughout, and allowed to leave the sick room if his condition otherwise admits of it.

6. The bed linen, soiled clothes, towels, etc., should be placed in a suitable sublimate solution and boiled, and the room well disinfected with sulphur. The sulphur candles are very convenient, and the disinfection should be repeated the second day, as the germs are very tenacious of life.

7. Require the nurse or attendant to keep the hair, face and hands well disinfected during attendance, and to likewise make a complete change in his or her garments on date of the disinfection of the sick-room.

8. Continue the provisions of the third and fourth rules once daily until desquamation is complete.

The above method for the prevention of scarlet fever has proven very efficacious in my hands, and, though simple, warrants a fair trial by the profession. I think there need be no fear of corrosive sublimate poisoning, as a very minute quantity of the drug is liable to enter the system by this means. Other germicides may be used

in place of the mercury, and it is probable that other eruptive diseases may likewise be treated with success in a similar manner.—*Medical Record*.

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THE *New York Sun* tells a pretty story of a woman who was carrying three leeches home, in a street car, from an apothecary's for her sick husband, when one escaped from the box and fastened upon the wrist. Piercing shrieks from the lady called the attention of the passengers to the mishap. One man, unusually bold, went to the rescue and removed the creature, but on replacing it in the box it was found that the other two had also escaped. A general panic ensued with screams and mounting of seats by the female passengers, each of whom imagined she was wearing one or both of the other two leeches. A semblance of peace was restored only when the missing creatures were found in the matting of the car. Their spirit was broken and their functional usefulness past restoration, but the sick man for whose swollen leg they were intended, on hearing the story, laughed till the swelling went down.

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TARRED FLOORS.

Some months ago, the floors of many Austrian garrisons were painted with tar, and the results have proved so uniformly advantageous that the method is becoming greatly extended in its application. The collection of dust in cracks is thus prevented, and a consequent diminution in irritative diseases of the eye has been noted. Cleaning of the rooms has been greatly facilitated, and parasites are almost completely excluded.

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THE CARE OF THE SICK.

VIII.

BY THE EDITOR.

As we intimated in our last, we come now to speak of the relief of pain by external or local applications. In the treatment of inflammations of various kinds situated in different parts of the body, particularly where it is upon the limbs or extremities, we would place first in the list of remedies water. It may be applied warm or cold as the case requires. Professor Gross in his writings upon this subject observes that "*Cold water* has been employed in the treatment of inflammation almost from time immemorial; but its beneficial effects were nearly forgotten until attention was recalled to it by some of the military surgeons of Europe, early in the present century. Its value is now universally acknowledged, and there is no remedy which is so frequently applied both in private and hospital practice." In the application of cold water to the affected part "its chief effect is evidently that of a sedative, lowering the temperature of the part and causing contraction of the vessels, thereby relieving pain, swelling and tension." It is particularly applicable to inflammation in its incipient stages when the trouble is just beginning. If, however, the inflammation has reached a condition of suppuration when pus is forming it is best to discontinue the cold

treatment. At this stage it is hurtful both to the part affected and to the general system. The application of pounded ice is of great benefit in inflamed joints, the result of gunshot wounds or other injuries, where the joint is greatly inflamed and very hot. But it should be remembered not to apply the ice too long at a time, or injury would result from the intense cold.

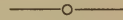
The use of *warm water* dates back to the olden time. We have an account of its employment in the days of Hippocrates and physicians of his time in gangrene and various affections of the skin. It has, however, only been within the last twenty-five years that it has assumed anything like the rank to which its importance entitles it as a remedy in inflammations. Professor Gross says that he "generally gives a decided preference to warm water over cold, the impression made by it upon the part and system being usually more agreeable and soothing while there is much less danger of metastasis, that is, a sudden transfer of the disease from the external to the internal parts of the body. It is particularly adapted to nervous, irritable individuals who are easily chilled by cold applications and to cases in which the inflammation has already made considerable progress, where there is much tension and swelling or where suppuration is pending, that is, the formation of pus or purulent matter, or when this

condition has already taken place. A good rule both in regard to warm and cold applications is to be governed by the feelings of the patient, to use the cold or warm water as seems to be the most soothing to the part affected and only to continue the application so long as it seems to do good and is beneficial in its results. If a change should appear advisable, that is to substitute the warm or the cold for the other, the change should be made gradually, not too suddenly or rapidly, lest it produces harm. Thus, if you are using hot applications they should be succeeded first by warm, then by tepid, afterwards by cool and finally if necessary by cold, the transition being gradual not great and sudden so as to shock the part and system and thus cause undue reaction.

If you are applying cold water the part is exposed to the air, the evaporation that would take place would have a cooling tendency. In the use of warm water the part is covered or wrapped up to keep it warm. The former has the object to retard the formation of pus and if possible to prevent it altogether while the latter by relaxing the tissues and favoring effusion prepares the way for the escape of purulent matter that has already formed.

If there is pus in the inflamed part it will soon show its existence. The part will point, "come to a head," it will be soft on pressure and a yellow spot appear. When pus forms it must escape. It will continue to burrow, "eat its way out," thus destroying an amount of tissue or structures in its course. Under such circumstances the knife should be used to make a way of escape for the pent-up fluid.

When this is accomplished the throbbing of the inflamed part ceases, the agonizing pain subsides and a grateful sense of relief comes to the suffering patient. Various other medicated topical applications for the relief of pain and inflammation will appear in our next.



THE CHIEF REQUIREMENTS OF HEALTH, WITH ILLUSTRATIONS OF THEIR PRACTICAL APPLICATION.*

BY WILSON NOBLE, M. D.

Within what may be called, comparatively speaking, modern times, we find death prowling through our crowded cities, and even our country homes, striking down with one hand the strong man in the prime of life, and with the other the woman and her little child, unchecked and unheeded, because the people did not know the cause of his coming, and, consequently, were unable to take precautions against his ravages. We have to ask if we are making progress? A few figures will, I think, show we are. The death-rate per thousand in the years 1660-79 amounted to 80 (plague and fire); 1681-90, 41.1; 1746-55, 35.5; 1846-55, 24.9; 1871, 22.6; 1887, 18.8. In London, in spite of its size and densely-packed population, the death-rate is only 19.6. It is to the present century that we must look before we find any serious steps being taken on the part of the legislature to insist upon more sanitary conditions being established. * * * Now the

*Address before the Health Congress at Hastings, England, April 24th, 1889.

chief requirements of health are: 1, water-supply, pure and plentiful; 2, fresh air circulated by ventilation; 3, removal of sewage by adequate drainage; 4, general cleanliness.

How far have these been insured by legislation, and can we look to legislation to insure them in the future? Before you can expect Parliament to move in the matter you must show that these things are necessary. The great obstacles to sanitary improvements are ignorance and poverty. I do not mean to imply that these are synonymous terms, so as to make them to appear as one cause, but as two entirely distinct causes of insanitation. In other words I do not mean to imply that the poor are necessarily ignorant. As to the removal of the first of these obstacles—ignorance—it is being rapidly dissipated. We have fortunately within our midst many men who have devoted their lives to sanitary science—men who are daily educating us and showing us how we may make our towns healthier, and our houses more wholesome; and consequently how we can prolong our lives, and protect ourselves against sickness and disease. These men are striving to attain a definite goal—the amelioration of the mental and physical condition of mankind. At present the death-rate throughout England is 18.8 per 1000. Looking back a hundred years, this is a very considerable reduction. Though we have been able in the last two decades to reduce the death-rate about 4 per 1000, this reduction implies a greater progress than the figures will at first sight warrant. It shows that we possess a greater power of contending with the forces of disease than we had in the

past, because the natural causes of insanitation are on the decrease. There is a strong tendency for people to congregate in towns, owing to the necessity of finding work. If people, having reached the towns, were able to find clean, healthful, and roomy dwellings, the result would not be so detrimental to health, as it is not the size of the town which produces unsanitary conditions, but the density with which the population is packed. If, therefore, we could increase the areas of towns in proportion to the increase of population, we should very materially reduce the tendency to sickness, and consequently the death-rate. But unfortunately, the bulk of the people who flock into the towns go there for the purpose of obtaining work, and must live near their work, consequently producing all the evils of overcrowding, about which I shall have something to say presently. Therefore, though the death-rate throughout England continues slowly to decrease, yet the progress of sanitary science is rapid; though the workers are few, yet are they earnest and energetic. They are daily acquiring knowledge, enabling them to cope with the ever-growing causes of disease, and they as rapidly distribute it; and if more towns were to hold congresses similar to this, where the people would have the advantage of learning what is necessary to the requirements of health, and, at the same time, instructing us who are in Parliament, and showing us where our responsibility lies, we should more rapidly reach the haven for which we are steering. This can, however, only be done by perseverance and patient labor, by allowing no prejudices to interfere

with progress, but by believing that those who have devoted their lives to a particular science must at least know as much about it as those who have persistently ignored it. So much for the removal of ignorance, which, I trust and believe, is but a matter of time. As to poverty, that cannot be so readily removed; the poor we have always with us, and always shall have. So we must endeavor to ameliorate their condition. They are largest in numbers, and consequently the greatest sufferers, and are surrounded by more unhealthy conditions. It is true that at one time there were advocates of the Malthusian theory—by which it was hoped that death from disease would remove the surplus population in overcrowded districts; I say “were,” because I believe very few of its advocates exist at the present day. Pestilence as a check on population has now been proved to be no check at all, for, instead of reducing population, it merely leaves it more sickly and enfeebled. In unhealthy localities, such as the slums of London, where epidemics run wild, the usual interval between births is one year, against two years in the more healthful agricultural districts, owing, no doubt, to the fact that in the latter case the mothers nurse their own children, and in the former they do not. This increase in the birth-rate, therefore, compensates for the increase in the death rate, the net result being that the unhealthy condition of a locality does not reduce the population. I am inclined to regard the

DWELLINGS OF THE POOR

as one of the burning questions of the day, and one which demands our

serious consideration, both on account of its importance, not to the poor alone, but to the whole community, and because it is, at the same time, one most difficult to solve. Those who have studied the report of the Royal Commission on the housing of the Working Classes will, I think, wonder, not at the high rate of mortality in our large towns, but at the comparatively low rate, considering the awful condition in which some of our people live. Lord Shaftesbury, who spoke with sixty years' experience, said that however much the condition of the poor had been ameliorated in other respects, the overcrowding was becoming more serious than ever. In some of the central parts of London, as in the neighborhood of St. Pancras, overcrowding had not increased, simply because the locality was so full that it could hold no more. In many parts it is unusual to find a family occupying more than one room. Until the report of the Commission was published, very few people had any idea of what was taking place within a mile of their own doors. In one case we find a family of nine persons, five of whom are grown up, occupying a room ten ft. x 8 ft.; two families in one room 12 ft. x 8 ft.; seven persons in a room 12 ft. x 6 ft., and only 7 ft. high; a father and mother are found occupying a room 10 feet x 5 ft., with four children. Overcrowding also exists in provincial towns, and though in some cases extremely bad, cannot compare with London in its worst parts. In Newcastle-on-Tyne, one hundred and forty families were found in thirty-four houses, each consisting of four rooms and two cellars. In another case

fifty houses with two hundred and thirty families; and in another, sixty-two houses, three hundred and ten families. Instances are given at Camborne, in Cornwall, where seven, eight, nine, and even ten and eleven persons were found living and sleeping in one room. In Birmingham, another kind of overcrowding was noticed before the improvement schemes were carried out; that is to say, of crowding a large number of houses on to a limited area, the rooms of the houses not being occupied by excessive numbers of persons. Overcrowding is invariably accompanied by many other evils, injurious alike to health and morality, such as structural defects, bad drainage, and bad ventilation; but setting these aside for a moment, overcrowding has been found to be injurious in itself. Sir Edward Chadwick has shown that there was an excessive death-rate in single-room tenements, a lower death-rate in double-room tenements, and a still lower rate in three-roomed tenements. In parts of London it was found that even where there was no outbreak of epidemic the death-rate in one case was 44.4, another 53.7, and in another as much as 70.1 per 1000. As has been pointed out, overcrowding is an ever-growing evil, because the causes which produce it are ever on the increase and themselves are productive of fresh causes. We have first the general migratory tendency toward the towns. The workman, having reached the town, is compelled to be as near as possible to his work, or if not in regular employ, to be in such a neighborhood that he could readily get to work should any offer itself. Sometimes work may be obtained provided the

workman can get to it by 6 o'clock the next morning. * * * * Nor is this the whole of the evil. The dwellers in these crowded parts become enfeebled by sickness and their poisonous surroundings, and are unable to do the same amount of work as they could do when they first came to town. The contractors consequently advertise for men from the country, who, fancying that the demand for labor is greater than the supply, flock up to town with their families to obtain work, thus adding to the already too dense population, and in their turn becoming sickly and feeble, only to be replaced again by fresh supplies from the country. * * Among the accompanying evils of overcrowding may be mentioned insufficient water-supply, bad drainage, bad ventilation, and structural defects. In many of the large tenement-houses there is a single water-supply, which, not being constant, is drawn off at certain hours of the day, and kept in tubs in the sleeping-rooms; or if there is a cistern, it is often outside in the sun, and uncovered. Those who travel to town may often have noticed the open cisterns in summer covered with green growth of rank water slime, which, if examined even in the most careless manner, would be found to be teeming with animal life. This water, when it holds out, is used for drinking and all domestic purposes. One very necessary reform I hope we may shortly see carried out is the purchase by the localities, metropolitan and provincial, of all water companies; a constant supply being enforced, thus abolishing cisterns, which are more often traps to catch any passing disease than containers of pure and

wholesome water. But the water supplied must be pure and wholesome for there is no more ready vehicle of disease than water. It has been shown, over and over again, how epidemics have arisen from contaminated water. Very frequently it is drawn from a well near a leaky cesspool or drain. Persons have taken typhoid-fever when contaminated water has been used for washing milk-cans. As water is such a willing carrier of disease, the fact should be utilized for our advantage, and not to our destruction. As science grows, our powers, not of controlling, but of utilizing the laws of nature, increases. Our present knowledge enables us to use it to our advantage by conveying all impurities from our houses; and yet for the most part, we only allow it to bring them to us. It is within our power to obtain pure water. Let us have enough of it to carry off to sea, or into the porous earth, which is an equally effective purifier, all our refuse and dirt. But the source of water must be plentiful and pure. Nature grants us this, but again we have abused her gifts. Look at our great rivers, and contemplate what they were, and what we have made them. We have means today of distributing sewage over the face of the earth, where it was by nature intended to be placed, to nourish and improve the growth of the plants we require. Instead of this, we pour it into our rivers, where it is washed backward and forward by the tide, contaminating the water, and not only making it absolutely unfit for use, but converting the river itself into an open cesspool. I venture to think that there are many less useful questions brought before Parliament than

that of the disposal of sewage, and the purification of rivers. Air, as well as water, is essential to the well being of the community, but the air must circulate, or it soon ceases to be pure. It is, however, not my province to dwell upon any particular methods of ventilation even were I competent to do so, except so far as the action of the legislature may prevent or assist the access of air to dwellings. Air is the common property of mankind, and no one should be allowed to deprive his neighbor of it by the erection of buildings in such a manner as to cut off the supply. By the Building Acts every house is obliged to have a certain amount of air space back and front, but in many cases these regulations are wholly disregarded. Houses are built back to back, or are separated by narrow alleys, the center of which is often little better than an open drain into which the filth from the houses is thrown, contaminating the air before it reaches the windows. Air, like water, is a great destroyer of impurities, and consequently a powerful deodorizer. I remember an old friend of mine in the medical profession saying that the chief use in disinfectants was that they made such a smell in the room as to compel persons to open their windows and admit fresh air. Structural defects, too, are often the cause of much sickness. It too often happens that houses are built of the commonest materials, and put together with the worst workmanship. The drains very shortly become leaky and dangerous, and the houses, even were they not overcrowded, would be wholly unfit for habitation.

The law seems tolerably satisfactory if we regard its provisions and

not its results. But it is to the results that we must look, and if we ask why they are not more satisfactory, we shall find that one reason is the indifference on the part of the inhabitants to the requirements of sanitary regulations. But in the more crowded towns, both metropolitan and provincial, there exists one great difficulty. If you provide the people with a sufficient number of rooms to meet the requirements of decency and health, and if these dwellings are provided with the necessary sanitary conveniences—if, too, they are to be built in such a manner as to ensure perfect ventilation and prevent overcrowding, one of two things must result. Either the occupier must pay more rent, or the builder or landlord, as the case may be, must forego his interest on his outlay. If the latter, the result will be that the houses are not built at all. On the other hand, can the working classes afford to pay more than they do at present? Under the present conditions, I think not; but under other circumstances, I think they can. We have already seen what an exorbitant profit the middlemen sometimes make. You can, therefore, do away with him, or place him under such stringent regulations as to prevent him letting lodgings in an improper condition. You cannot pass an Act of Parliament to say what rent a man shall pay, but you can enact that men shall not pay rent for dwellings that are unfit for habitation. We will suppose, then, that by means of legislation and inspection, we have places that are fit homes for the workingman. Can he afford to pay such rent as will give a fair return on the outlay, even though it should be

higher than is at present paid? If we consider what he gains in return, we shall see that he can. Overcrowding and unhealthful dwellings produce debility, weakness, and exhaustion, rendering the poor particularly subject to sickness and disease. It has been found that at the lowest estimation every workman loses twenty days in the course of the year from exhaustion alone. Not only do those surroundings deprive a man of a certain number of working days, but they of necessity shorten his life. If, therefore, you can give a man such a home as to prolong the average span of life, you are surely giving him something that will be worth paying for. Not only does he gain strength, enabling him to work a larger number of days in the year, and so earn more wages, but you are also adding to the number of years during which he can work; and as you reduce the likelihood of premature death, so you reduce the premium of insurance. There are many items, therefore, in a poor man's expenditure which might most advantageously be devoted to a higher rent without increasing his expenditure as a whole. It may be said, and with great justice, that a workingman who is in regular employ might regard a higher rent for better dwellings as a good investment, but there are thousands below the regular wage-earner who have nothing to invest, and who cannot pay increased rent, no matter what advantages they may gain in doing so—in fact, often he can pay no rent at all. It is here where the real difficulty lies; and the question remains: To what extent is the Government called upon to find homes for these people? I think

some steps might be taken by municipal or county authorities, backed up by an act of the legislature, if possible, to invest money in the

THOROUGH SANITATION OF ROOKERIES

and other places where overcrowding and its unhealthful surroundings become a danger to the community at large. If I regard this for a moment from a monetary point of view, as I have done in the case of the individual, it is not because I consider this its most important aspect, but I do so, first, because the advantages of promoting the health of the body politic are so obvious as not to need insisting upon and to prove, if possible, to those who might object to any increased outlay of public funds, that they are not wasting their money but investing it to a good purpose; that, though they may appear to be casting their bread upon the waters, they will inevitably gather it again where they least expect it. It should, however, not be forgotten, as I have already pointed out, that county councils have the power of erecting and controlling laborers' dwellings, charging such a rent as will give a fair return; but the enormous cost to them and the Trustees of the Peabody Fund have hitherto greatly checked their undertakings. It is very desirable that public bodies should be encouraged to build as much as possible, as they are naturally satisfied with a smaller return than a contractor, who builds solely for profit. I have it on the authority of my friend, Sir Lyon Playfair, that there are every year one hundred and twenty-five thousand deaths in this country from preventable causes. The investigations of Pettenkofer have shown that there are

thirty-nine cases of serious sickness for every death; therefore we have annually four and one quarter million cases of preventable sickness; and as these cases last on the average eighteen and one-half days, irrespective of the twenty days mentioned before, we lose annually more than seventy-eight and one half million days' labor, which, at two shillings a day represents a loss of over seven and three-quarter millions sterling. Surely, therefore, putting it on its lowest ground it would be an economy to adopt sanitary measures, and an excellent investment for the localities to make. It is open to doubt whether you can appraise at any money value the life of an individual, but you may fairly compute money which will be saved by a proper outlay for sanitary purposes. To show what has been done in the way of saving life where sanitary improvements have been undertaken, I may mention that, after the defects in the sewage of Salisbury had been remedied, the deaths from phthisis fell forty-nine per cent; at Ely, forty-seven per cent; Rugby, forty-three per cent; and Banbury forty-one per cent. What we also want is a thorough and efficient

INSPECTION OF DWELLINGS

and localities which are in an unsanitary condition. I have endeavored to point out that the legislation is satisfactory, but that where it breaks down is in the want of knowledge obtainable. I know that too close inspection is repugnant to our feelings, but we often have to submit to things we dislike for the public good, and you can only remedy sanitary defects when you have knowledge of them,

and this knowledge can only be obtained, like other knowledge, by seeking it. We are often told the Imperial Parliament is omnipotent, and can pass what measures it will. But there is in existence a code of laws which are older than the Parliament itself, which are more immutable than those of the Medes and Persians, which are inexorable in their execution, and which are enforced by the terrible sanction of sickness and death. These are the laws of nature. You may make what regulations you like by means of your Imperial Parliament, but unless they are done in accordance with the laws of nature, they are worse than useless. Nature is not a hard taskmaster, because her ways are clear and well defined. She does not act in one way today and in another tomorrow. You may repose the fullest reliance in her promises, knowing full well that as she has acted on one occasion, so she will act again under similar circumstances. Some of these laws are known to us, others have as yet to be discovered, but are daily being revealed and placed at our disposal. We cannot always act in accordance with laws that we do not know. And do we always obey those which we do know? If we did, we should be relieved of much sickness, and its accompanying misery. It might be thought from what I have said that it would be useless to pass any measures of sanitary legislation, for nature will have her way in spite of you. If these measures were conceived in a spirit of antagonism to nature, they would be useless, or worse than useless, and you may depend upon it that where pestilence has visited a locality, or

where there has been an abnormally high death-rate, it will be found that nature's laws have been disobeyed. If, therefore, your legislation is to be of any avail, it must have for its object the utilization of nature's forces. There are constantly moving about in our atmosphere myriads of disease germs, seeking, as it were, places where they can obtain a foothold. If our homes are clean and well ventilated, they will pass harmlessly by; but if they find any decaying matter upon which they can settle, they will certainly do so, and we pay the penalty. Let us, therefore, once and for all recognize the vital importance of living in a perfectly sanitary condition. We may be able to a certain extent to bring this about by legislation but legislation is of no use unless it is enthusiastically and intelligently carried into effect by the people it is intended to benefit. What ever this legislation be, let it follow, and not seek to drive the forces of nature. When we have done this we shall reap our reward in increased comfort, a diminution of sickness and disease, and a lowering of the national death-rate. We shall obtain blessings greater even than prolongation of life, which, without health, is often a curse rather than a blessing. Give a man health, and you give him something more to be desired even than length of days. You give that which alone makes life enjoyable or even bearable—you give him contentment and happiness.

"Nor love, nor honor, wealth, nor power
Can give the heart a cheerful hour
When health is lost. Be timely wise:
With health all taste of pleasure flies."

THE HYGIENIC USES OF THE IMAGINATION.*

A large part of the burden of caring for the insane fell upon the general practitioner, for many of the mentally afflicted were now treated privately instead of being cared for in asylums. It was true that there were

EIGHTY-FOUR THOUSAND FOUR HUNDRED AND SEVEN INMATES OF INSANE ASYLUMS.

who were under the care of specialists, yet nearly all had been consigned there on the evidence of medical men who were not specialists. A bill recently passed in Parliament, and now awaiting the royal assent, would in a measure relieve medical men from much of the apprehension which they now felt in signing lunacy certificates, but nothing could take away the sense of responsibility which they must necessarily feel in thus depriving any person of his freedom and entailing upon him sure opprobrium as well as far-reaching disabilities. The certification of insanity must, therefore, always remind the general practitioner that psychology is a subject of especial and practical interest to him. But it was not here alone that medical psychology came into prominence, for it met the general practitioner at every turn and in his daily practice.

An address such as the present might emphasize the psychical side of the union of mind with matter. The researches of many physiologists led to materialism, but mind was not a mere exhalation of brain-substance. Materialism was an error—confusing

the objective with the subjective. To describe consciousness as a function of the brain was erroneous. Volition, cognition and feeling were not functions of the brain. The real nature of the relation between mind and matter was unthinkable. Various theories had been suggested; as, that the psychical relation of mind to the brain was that the mind acted through the nervous system; that the brain and mind were simply the reverse, one of another; and that there was a parallel between mental states and states of the brain (theory of parallelism or concomitance). The latter view was that held by Herbert Spencer, Tyndall and Hughlings Jackson. The psychical centers had been placed in the prefrontal lobes. Electrical stimulation of these lobes in monkeys had led to the belief that they were not motor. But the psychical centers could not be pent up in any part of the brain. Trousseau had related the case of an officer whose frontal lobes had been pierced by a bullet without any sensible loss of intellect, and he had himself conversed with a man from whose right hemisphere Professor Horsley had taken a tumor the size of a goose's egg, and in whom he could detect no mental defect.

Confining his remarks, then, to one of the mental faculties, imagination, the speaker said that it had an application in the treatment of disease which neither the general practitioner nor the specialist could afford to neglect. This psychic power was like a pioneer in a new country, for

IT OPENED UP NEW PATHWAYS IN THE
BRAIN,

by means of which its different territories were brought into closer and

*British Medical Association, Fifty-seventh Annual Meeting, held at Leeds, England, August 13, 14, 15 and 16, 1889.

more ready communication. The brain, without imagination, was like a country without railways, in which locomotion was laborious and slow; and the brain richly gifted with it was like one in which steam and electricity had established easy and rapid communications. He would not stop to trace that development of imagination which, resting upon intuitive beliefs and historical facts, and stirred by the most earnest cravings of our nature, mounted into faith and revealed to man "the substance of things hoped for, the evidence of things not seen."

* * * * *

SECULAR IMAGINATION,

he might call it, which was one of the most effectual of those psychical agencies by which the conditions of health and of disease might be modified. He would consider especially the hygienic uses of this mental faculty, though a word might be said as to its scientific use as an instrument of discovery in investigations of disease, both particular and general. Medical men had not merely to identify and catalogue the symptoms of disease, but they had to trace them to their antecedents and true causes, and this they could only do by invoking imagination's help to supply them with speculations and hypotheses, which were not less essential to them in their work than the microscope, test-tube and clinical thermometer.

ALL TRUE SCIENCE RESTS ON IMAGININGS,

he said, and is nothing else than a body of established truth which imagination has built up. Observed phenomena had to be explained by unfolding their causes; and in medical

inquiry a provisional guess was hazarded, which was then put to the test by further observation and experiment. Of course, such provisional guesses were often wrong, and then had to be given up. But all the truths of science had been provisional guesses to begin with—working theories formulated by the imagination and proved by the touchstone of experiment, and so brought to a mathematical certainty.

The cultivation of the imagination was most important to medical men, and they need not fear that they were wasting their time when they turned aside now and then from their professional tasks to ramble for a little in the green pastures of literature. Imagination might be fully trained for its professional duty, as it was exercised, in conjunction with observation and judgment, in the scientific sphere; but it would be braced, invigorated and have its resources multiplied by recreating occasionally in its native air. Even if imaginative pursuits did not strengthen the hands of medical men in grappling with disease, or quicken their scientific vision, they would still be commendable because of the refreshment they bring to jaded brains. To turn from the fatigue and anxieties of practice into realms where rivalry was no more and night-bells never rang, was to plunge into one of the most soothing and depurative of

TIRED NATURE'S BATHS.

Members of the medical profession were, indeed, generally aware of this and resorted to imaginative literature, music and art more than any other class of professional men, except, of course, artists and men of letters, and

to an extent that was remarkable, considering the engrossing claims made on their time and the scant leisure they enjoyed. Having referred to some of the contributions of medical men to the department of imaginative work, the speaker said that it was not as producers but as consumers of poetry and imaginative literature that they derived from them their restorative influence. It might be objected that the imagination, if sometimes stimulating and restorative in its influence, was often morbid in its tendencies, and that its indulgence was to be guarded against by those who desired to possess well-regulated minds. But the weak vessels wrecked by imagination were really fewer than was commonly supposed; and he did not hesitate to say that there were a dozen cases of

INSANITY CAUSED BY WANT OF IMAGINATION

for one caused by excess of it. Apathetic dullness and torpor of mind were apt to deepen into dementia; and those entirely given up to "the cares of this life and the deceitfulness of riches" were more likely to be choked by them than those who could surmount them and breathe the free and ample air of æsthetical emotion. A vulgar error as to the nature of insanity had perhaps conduced to exaggeration as to the dangers of imagination. Visitors to asylums invariably expected to find growths of morbid invention and belief, wild, tangled and luxuriant as a tropical forest, and left much disappointed by the barrenness of the land, for the insane were the least imaginative of beings. Idiocy was the absolute negation of imagina-

tion, and insanity undermined and destroyed or enfeebled it more or less; and when they tried to drive out insanity, the first thing they did was to invoke imagination's aid, for moral treatment consisted mainly in appeals to this faculty, and fully acknowledged its hygienic uses.

THE FIRST RECORDED CURE OF MELANCHOLIA

was by the harp of David, and today in every lunatic hospital worth the name persistent efforts were being made by music, by pictures, by poetry and the drama, to stimulate the imagination, and thus "cleanse the stuffed bosom of that perilous stuff that weighs upon the heart." Like every good gift, imagination might be prostituted and abused, and in the history of art, literature and the drama, abundant proof might be found that it had been made to pander to vice and folly. But when this had been the case, it was not so much the imagination that had been at fault as a certain pestiferous element that had been infused into it. The records of crime, when reported with prurient detail, and with a halo of romance thrown round them, had sometimes a permanently pernicious effect, and tended to reproduce themselves.

MEN OF TASTE TURNED FROM SUCH GARBAGE WITH DISGUST,

but there were always sickly and partially depraved natures ready to be powerfully affected by strong impressions of a criminal complexion. Sheer weakness and vacuity or instability of temperament are the soils most congenial to vicious and atrocious ideas.

A highly and widely cultivated imagination seems to increase physiological resistance to morbid and profligate suggestions, and also to pathogenic germs, for in plague and pestilence those are most likely to escape who have varied mental resources, can distract their minds and look beyond the moment, and those are most likely to succumb who give themselves up to abject fear.

The speaker then referred to the

INCREASING PURITY OF ENGLISH LITERATURE,

which was so noticeable at the present time, and pointed out the absolute necessity that existed for the preservation of the literature for the young from any taint of impurity, since impressions made at this time were indelible and would influence the whole future of the individual. The study of statistics of public libraries had brought out one fact that was most interesting to medical men. This was that the call for works of fiction and volumes of poetry was greatest in the spring, when nervous erethism existed, and "a young man's fancy lightly turns to thoughts of love," and was least pressing in autumn, when the nervous system was comparatively quiescent. In concluding his address, Sir James Chrichton-Browne said that he had endeavored to unfold before his hearers some of the uses to which imagination might be put by the medical man, and he would only repeat now the assertion that imagination must always receive primary consideration in a study of mental hygiene.

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Dr. Parsons read a paper on

DISINFECTION WITH REFERENCE TO THE CONTROL OF EPIDEMICS.

By disinfection, he said, he meant the destroying of the activity of that matter which, produced by a sick person and received into the system of a healthy one, had the power of causing in the latter a disease similar to that from which the former was suffering. Modern research had shown that certain diseases in men and animals were undoubtedly caused by the presence in the system of micro-organisms that were communicable by the inoculation of such organisms. Of the pathogenic microbes the most convenient for the purpose of testing disinfecting agents was the bacillus anthracis. It formed, under certain circumstances, spores which were exceedingly tenacious of life; it could be cultivated, and was easily recognized both by its microscopic character and its appearance when growing, and if inoculated into animals it produced in them with certainty the disease known as anthrax. None of the ordinary infectious diseases of mankind were known to be caused by spore-bearing microbes, though it was possible that small-pox, the contagium of which was very tenacious of life, might turn out to be so; and so far as their present knowledge and experience went, they might assume that means which would destroy the spores of the bacillus anthracis might be relied on as efficacious for their purpose, though it would not follow that agents which did not destroy bacillus anthracis were therefore useless against the less resisting contagia of other diseases.

The speaker then referred to various experiments to determine the

BEST MEANS OF DISINFECTION.

It had been shown that steam would destroy the pathogenic micro-organisms much more quickly and more surely than dry heat. Carbolic acid and sulphurous acid gas were efficacious to a certain extent in destroying the vitality, or at least retarding the growth, of bacteria, but bi-chloride of lime was the best disinfectant when it could be employed. The matters which might act as carriers of infection, and might thus require disinfection, were: 1. The body of the patient, living or dead. 2. The discharges given off from the body of the patient, and more particularly those from the organs specially affected by the disease. 3. The air, tainted by exhalations from the sick, and the poison probably existing therein in the form of suspended particles. 4. The clothes, bedding and other textile articles used by the sick. 5. Utensils of various kinds used by the sick. 6. Articles of food, as milk and water. 7. Walls, floors, etc., of dwellings occupied by the sick, especially dust and dirt lodging upon the walls, and dirt accumulating in the cracks of the floor. 8. Collections of filth, as sewage, especially in a stagnant state, or deposited in or encrusting the sides of foul drains, foul ground surfaces and subsoil. It was not of much use attempting to disinfect the infected air of sick-rooms by chemical means, for active chemicals, if present in sufficient quantity to be effective as disinfectants, would render the air irrespirable. It was easier to get rid of it and let its place be taken by fresh air. The contagia of most infectious diseases appeared to be destroyed when fully diluted by fresh air. The poison

of typhus fever was notably so, but that of small-pox did not appear to be, and it had been proposed that, instead of ventilating small-pox wards into the open air, the air from them should be extracted through a flue and burnt in a furnace. Or, he might suggest that a steam-blast might be used to extract the air and disinfect it at the same time. Of chemical disinfectants for the disinfection of excreta, corrosive sublimate, probably, is the most trustworthy and suitable for ordinary use.

For most cases of disinfection, either dry or moist heat could be used, but leather was destroyed by steam. Books could be disinfected by means of dry heat, the leaves being spread open. For

HOUSE DISINFECTION,

fumigation with sulphurous acid or chlorine gas, the latter preferred, followed by thorough cleansing and scrubbing, the removal of wall paper and whitewashing were to be recommended; but these processes to be effectual, needed to be carried out with more thoroughness than was often done.

Dr. Caldwell Smith spoke of

THE NECESSITY OF ISOLATION

as well as disinfection. The latter was often very thoroughly carried out, while no attention at all in many cases was paid to the former. He advocated the establishment of cottage hospitals in rural districts as well as in towns, and said that all cases of zymotic disease should be removed to the hospital. It would be necessary, however, to teach the public before

the need for this strict isolation would be realized.

Dr. W. Squire also referred to the great value of isolation in the prevention of epidemics. The disinfection of premises, rooms and clothes, which followed the removal of the sick, often prevented other cases arising from the same source, while the removal of the patient for the whole period of infection was a more efficient safeguard against its spread than any amount of soap and water or external disinfectant could possibly be. Both means should be in force, but it was useless to give notice of the presence of infection unless means of isolation were provided and insisted on; no method of disinfection would succeed unless those who had been exposed to infection were kept from mixing with others, at school or elsewhere, until they were known to have escaped it, and those who had been attacked were kept from mixing with the susceptible until the infectious period was over. The results of this system of isolation were very clearly shown in the lessened mortality of scarlet fever during the epidemic in 1887. In that year the disease in London was less fatal than in many non-epidemic years, and so completely was it arrested, that for the first time since registration began, no autumnal increase of it occurred at the end of the last year.

Dr. E. W. Hope cited several cases in which neglect to isolate and disinfect had been followed by disastrous results.

* * * * *

Mr. Johnson Martin presented a communication upon

THE CARE OF LIVE STOCK AND ITS INFLUENCE UPON THE FOOD-SUPPLY.

He said that cattle were not cared for as well now as in former times. For example, the high embankments which formed shelter from heat and cold for animals had been and were still being taken down, causing pleuro-pneumonia and kindred diseases. It would be a great calamity if owners and occupiers of farms did not at once begin to provide better shelter and purer water for their cattle. The impure water which many had to drink, and the sewage which they had to trample in, increased the virulence of foot-and-mouth disease. Swine-plague would spread more and the disease be more virulent where the animals were kept in a filthy state. Many medical men were of opinion that tuberculosis was transmitted from animals to man. Tuberculous diseases and diseases of the mouth and throat were, as a fact, increasing, and it was certain that man was more secure from disease when living on sound food than on that which was unsound or diseased. The drinking-water for a large number of the cattle and sheep in England was now polluted with sewage. The housing of cattle was also of great importance. He had the authority of several practical butchers for stating that formerly very few cows in England were found with diseased lungs and liver, and that now very few cows of five or six years were free from disease of the liver or lungs, or some part of the body. This, in his opinion, was due to there being insufficient shelter from heat and cold, together with an insufficient supply of pure water.

Medical Record.

Salt Lake Sanitarian

A MONTHLY JOURNAL OF MEDICINE AND SURGERY,

Devoted to the prevention and cure of diseases and injuries, and the promulgation of the laws of health and life.

M. B. SHIPP, M. D., EDITOR.

SALT LAKE CITY, NOVEMBER, 1889.

EDITORIAL.

THE RESPONSIBILITIES AND DUTIES RESTING UPON THE PEOPLE AS REGARD THE PREVENTION AND CURE OF DISEASE.

In the times that are past until within very recent years the dependence of the people in cases of sickness was almost entirely upon the doctors. But little was understood as to the causation of disease. The laws of life, the principles and conditions that govern or operate upon the health of the body received but little if any attention by the great masses of humanity. People expected to be sick—they looked for ailments—they did not think anything they could do would make any difference. Perhaps in the low countries, surrounded by marshy districts where malaria pervaded every nook and corner, the folks would gather the dogwood and other bitter barks and prepare somewhat for the fall attack of the chills and fever. Sickness was a thing to be endured without any expectation of escape. The thought that illness might be warded off never entered their heads. Prevention of disease was a thing unheard of. The doctors themselves devoted all their time to the cure of disease. Their

dependence rested solely upon the efficacy of drugs and medicines. They were ever upon the alert to discover some new remedy that would prove more powerful in combating disease. The whole bent of their mind and labors of investigation were in the direction of how to handle and cure disease after it had been established. The bacillus and microbe, the germs of disease, were undiscovered. Preventive medicine formed no part of the medical science. If the investigators in the art and science of medicine knew nothing of prophylactic measures, it is not likely the people were any better informed. But today it is different. The bent of the professional mind is turned in a different direction. To discover the cause and the means of removal are the efforts that are being made by the great lights in the profession.

In the last few years many very important discoveries have been made of the causes that lead to sickness. Prophylactic medicine, as it is called, has made great advancement.

Sanitation points out the successful methods to be employed by which the death rate is to be lessened, but it will not answer the purpose if the knowledge obtained on these important matters shall be confined to the doctor. Doctors are sent for after people get sick. If benefits are to be obtained from measures that can be employed to prevent attacks of sickness these measures must be instituted beforehand. To accomplish this, it depends entirely upon the people themselves. The scientists and those who make it their business to investigate and develop principles and facts pertaining to the prevention of disease are giving

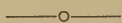
to the world much valuable information relating to the causes that are operating for the spread of disease, but unless this knowledge is made practical by the masses knowing them, but little good will be accomplished. If we continue the old-fashioned way of doing things, depending upon the efforts of the physician to cure us when we are sick, we will not see the ravages of disease diminishing in our midst. Neither do we help matters by discarding the practitioner and following the old time customs and ideas of handling the sick. It is known that most diseases, if not all, run their course from the incubating stage to the crisis, when resolution takes place or death terminates the suffering. A better education more wide spread is loudly called for. Professor Gross declared before a class of a thousand medical students that "it was information that the people needed," urging upon the young men when they entered in their various districts for practice to exert themselves to their utmost to inform the people upon the vital question of the cause and prevention of the spread of disease as the only hope of staying the ravages of the destroyer. If the masses continue in a state of apathy, their attention so absorbed in the routine of daily life as to be indifferent to the subject under discussion, what can we hope for? The ailments that the human flesh is heir to will in the future as they have in the past have it all their own way.

If these things be true, and can there be any question upon this point? what are the grave responsibilities resting upon the people? Is the answer not evident? Inform themselves upon these serious questions, elevate

the standard of information, attain a better understanding and institute measures that will prevent the prevalence of sickness. Why is it that scarlet fever, typhoid fever, diphtheria and other grievous plagues are spreading so over the land? What hamlet escapes the visitation? It matters little whether it be situated in the low vale or high up the mountain side, the ever infectious germ is wafted to its inmates and leaves its deadly impress. Much will have been accomplished if an interest can be awakened upon this subject. If a desire can be awakened in the minds of the people to seek for information of this character it can easily be obtained. There are many journals devoted exclusively to sanitation and prophylactics, whose columns are ably edited, that if they are sought for may be easily obtained. If you would compute the value of such labors you must estimate the value of life. We have instances where there have been places that were sorely afflicted with these contagious diseases, and measures were instituted to destroy the contaminating germs that caused the trouble, also providing against their approach. By so doing the diseases have become entirely stamped out and the place made free from their presence; whereas in other places where they prevail and the people are trying to doctor themselves, the spread of the disease remains unchecked.

The ground cannot produce the grain unless it is planted, neither can disease develop unless the body becomes impregnated with its germ. The burden of the responsibility might be lightened if a better understanding is had of how to remove the cause of

sickness and attain a knowledge of and conform to the laws of health and life.



MEDICAL STATISTICS AND HYGIENE.

BY B. A. RABE, M. D., Oakland.

(Read before the Alameda County Medical Society, August 13th, 1889.)

It is gratifying to the lover of his fellowkind to glance over the bills of mortality of the present era, in contrast with the good old times, after whose return some sentimentalists still sigh.

Statistics, though dry and tedious, frequently yield much that is interesting and especially gratifying by showing how much more favorable the conditions for human life now are, and to physicians particularly, how much medical and sanitary sciences have done to prolong the human span. As physicians, however, we have no just claim to the monopoly of credit for this betterment, but must allow a due share to the many other agencies that bear a part; yet, with reason, we may claim that the intelligent physician has much to do with bringing about this result, which is shown in one glance, by comparing the death rates of the various peoples of the globe, where it appears that these rates bear a ratio very nearly inverse to the number of qualified physicians among them.

The highest death-rate in Europe is in Russia, where it ranges from nineteen and twenty per 1,000 of population in Baltic provinces, where good physicians are numerous, to forty-nine and fifty per 1,000, in south and east-

ern Russia, where there are very few. All Russia has but 15,414 regular physicians, and but *one* surgeon to every 100,000 of population. Of 1,000 male children born but 480 or 490 reach twenty-one years, and of these only 375 are able-bodied. The United States has one physician to every 600 population, and shows the lowest death rate in the world; England following.

The average life expectancy in the United States is now fifty-five years. In England in the urban population it is fifty, and among the ruralists fifty-four years. Russians have a life expectancy of but twenty-eight years, approximately. Chilians, the same. In the Soudan, twenty-three years is a generation. The average life in the Rome of the Cæsars was but eighteen; now it is forty years. Within fifty years the average has increased in France from twenty-eight to forty-five years. In good Queen Elizabeth's days the English average was but twenty years.

This happy change must be ascribed to many causes, among which may be mentioned: 1. Advanced medical knowledge. 2. Better clothing and housing of population. 3. Increased cleanliness. 4. Improved drainage. 5. Better diet and increased food supply; rapid transportation rendering famines, once so frequent and destructive, now impossible. 6. A decrease of wars and extensive epidemics. 7. The more favorable conditions of the people as to political, social and economical surroundings.

If one were so disposed, it might not be out of place here to speculate upon the probable effect upon these same tables of longevity that is likely to arise out of the latest discovery of

that eminent physiologist and specialist, Dr. Brown Sequard, whose former labors have so enriched medicine, and whose very latest promises to dower mankind with the gift of seperternal youth, in search of which the weary feet of stout adventurers have led them into the heart of an unknown continent, and tired philosophers over their crucibles have vainly pursued the jocund phantom to their last breath. One can scarcely repress a smile at recognizing in the smoke of the announcement the shadow of the ghost of a fancy of an elixir of life, long since supposed dead and buried, suddenly re-appearing and claiming our attention from such a high source. In this age of experiments we may expect to see it speedily assume its proper position in the physician's armamentarium, and future statistics will tell its value.

While it will ever remain the principal duty of the physician to restore the ill to health, this is not his whole duty; as upon him naturally falls the examination of all questions relative to public hygiene and the dissemination of the principles of sanitation of localities and houses. Every cause, therefore, capable of producing disease or death, should be given his most careful consideration, as to its origin and how it may be obviated.

Dr. John B. Hamilton, of Washington, D. C., in the latest *Annual of the Medical Sciences*, says that Ernest Almquist deserves particular mention for his efforts to show the general effect of hygienic study and practice on mortality. His researches were limited to the effect of the most ordinary hygienic measures of the city of Goteborg, whose water supply and sewerage

system were completed soon after 1870. The annual mortality per 1,000 in 1866-70 was 28; in 1871-75, 24; in 1876-80, 20; and in 1881-85, 20. The mortality is thus seen to be lessened after the completion of the hygienic improvements. Unfortunately, other causes of the fall of mortality cannot be excluded, as absence of epidemics of smallpox, scarlatina, cholera, etc., which previous to 1870 extended over Europe.

Almquist recommends for the more exact solution of the question: 1st, investigation of the annual mortality of the same city during an extended period; 2nd, search for possible changes in appearance of epidemics; 3rd, determining whether certain diseases, recurring year by year, have been lessened during the past twenty-five years.

He gives us a table of the annual mortality in Goteborg since 1776, with annually occurring epidemics, and discusses it under the following heads: 1. Statistical material. 2. Sanitary improvements. 3. Decreasing mortality. 4. Studies of years free from epidemics. 5. The behavior of epidemics formerly and at present. 6. Diseases appearing every year. And he reaches the following conclusions:

1. That mortality has greatly decreased since last century, and has also fallen from time to time in the present, before hygienic measures were undertaken. This is ascribed to the more favorable conditions of the people.

2. From the fact that certain periods have been visited by different kinds of malignant epidemics, while others have been remarkably free from them, and that in former times, certain

periods of high mortality have occurred, while others show a lower mortality during a number of consecutive years, it is evident that the influence of certain sanitary works cannot be proven with certainty by a comparison of mortality for a few years before or after they were put in operation. It is equally faulty, simply on the basis of observations of the general mortality of a city during a short period, to designate its condition of health as bad. Before all we should be cautious in comparing mortality in epidemic and non-epidemic years, in that respect.

3. The present low mortality of Goteborg cannot be ascribed mainly to hygienic improvements, because periods of low mortality, some continuing as long as ten years, can be found in former periods, when no sanitary measures were in operation.

4. In Goteborg, the significance of these hygienic works for the general mortality of the city during non-epidemic years can hardly be rated higher than twenty to twenty-five per 1,000.

5. It is proven that something acted against the spread of epidemics, even not considering vaccination; but the non-appearance of late of dysentery, cholera, intermittent fever, smallpox and typhus, does not justify the conclusion that they were dissipated by hygienic measures, since in former times, there were periods of considerable length, during which, one or another of these epidemics failed to appear. The effect upon epidemics of the hygienic works in Europe at the present time cannot as yet be determined and, possibly, can only be seen with certainty when cities con-

ducted under sanitary conditions remain free from epidemics which invade cities not so conducted; or where an epidemic has assumed a strikingly changed character for an extended period, while other exciting causes can at the same time be excluded.

6. Among the diseases appearing annually at Goteborg, the following have shown no inclination to decrease, during the past twenty-five years: phthisis, pneumonia, pulmonary catarrh, nephritis, cancer, *et al.* Puerperal fever and traumatic infectious diseases have greatly decreased. Infantile diarrhoea presents perhaps, a slightly lessened mortality. Typhoid fever has greatly decreased.

Much has been done during the past year in the way of perfecting and making uniform the various systems of quarantine and much more yet remains to make it perfectly satisfactory.

Cremation is steadily advancing in public favor, and it is highly desirable as a hygienic measure that it should become universal. Crematories have greatly multiplied throughout the world during the past year. In Buenos Ayres the bodies of most of the persons dying of contagious diseases have been so treated. One present method of burial in the ground contaminates both the air and water in the immediate neighborhood and endangers the living.

Keldyche, from a series of experiments on air drawn from hospital wards, says: "Air, which has been saturated with eucalyptol, will no longer give rise to colonies of bacilli in gelatine. The spores of fungi are able to pass unharmed, but as their action on the higher animals is probably limited, it is not a matter of

much importance. If confirmed by independent observation, this valuable quality renders the drug worthy of wide spread employment, for no other disinfectant is known which can be relied upon to effect its purpose without rendering the air irrespirable, besides acting very injuriously on clothing, furniture, etc." It is a well known fact that the purity of the air is in proportion to its distance from the earth, and for this reason G. Smith, of New York, recommends that houses be so constructed, that the house-tops may be used whenever the weather will permit. House walls which never meet the direct rays of the sun are cold and damp, covered with mould, and necessarily unhealthy. The walls absorbing moisture also through the foundations become filled with an enormous amount of water, which can only be evaporated by therapeutic action. In portions of the globe under 40° latitude, streets should be numerous and if possible parallel with the meridian. In the tropics they should be wide, and the blocks of sufficient size to enclose a quadrangular court.

Numerous experiments demonstrating the presence of bacteria in the air have been made by R. J. Petri, Hesse, Frankland and others. Whittaker writes that Kummel claims to have found all kinds of micro-organisms on the walls of his operating room. Emmerich found on the walls of the pathological institute of Munich the micro-organisms of erysipelas, a discovery which was verified by cultivation and inoculation. Eiselberg found deposited on slides placed on and under the beds of Billroth's wards the staphylococcus aureus, and later, in

the same way, Fehleisen's streptococcus. Uffelmen found Freidlander's pneumonia bacillus in the air of a cellar under the hygienic institute at Rostock, and Cornil, without doubt, inoculated tuberculosis from sponge scrapings from head boards of beds occupied by phthisical patients. This has been verified by others. By similar experiments on the atmosphere of infected localities have been found the micro-organisms of yellow fever, etc. Thus, it is positively shown that these little micro-organisms, of which one can hardly speak without using bad language, are to be found in every sick room.

Water is often the direct means of conveying morbid agents into the system, such as noxious gases, poisonous metals, animal organic matter, particularly those contained in the excrements, decomposing vegetable matters, etc. Dr. John C. McKowen well illustrates the hygienic value of pure water on the health of a city. "Pure water from a mountain stream called Serino, was brought into the city of Naples, Italy, and distributed in May, 1885. Cholera had ravaged the city the previous summer, but the pure water prevented its return in 1885, when, however, the cholera was playing havoc in towns but a few miles distant, as in the previous summer, and whose inhabitants still used well water. The disease was introduced into Naples by refugees from these places, but its pure water prevented its spread. The same thing occurred in 1886. During the summer of 1887 the Serano aqueduct was broken for three days and the Neapolitans were compelled to use well water again, and in one week afterwards the cholera

broke out again, doing but slight damage, however, as the aqueduct was soon repaired. The Italian railways have built portable cisterns to carry water from Naples to infected localities, and the results have been marvelous. As an instance, Barletta had two hundred cases of cholera, daily, which was reduced in forty-eight hours of a free use of the pure water by its people to twenty daily. It not only exhibited its good effects in cholera, but other infectious diseases showed similar results. Statistics, three years previous, and three subsequent to the use of pure water, show as follows :

NUMBER OF CASES BEFORE	AFTER
Typhoid	333 76
Typhus	317 77
Low fevers	82 26
Intermittent	93 62

Volumes could not speak more than these few words as to the inestimable value of pure water. The contamination of the water supply of most all the cities of the United States is very great, and none have been so fortunate as to wholly escape it.

To render its deleterious principles inert, boiling the water has been recommended, but this has been found to destroy certain salts without destruction to certain microbes. The good health of the Chinese under their adverse hygienic surroundings has been attributed to their well known habit of tea-drinking. F. A. Castle recommends a glass filter so that the filtering plug would be observable and changed when it becomes foul.

Cyrus Edson states that "from a sanitary point, the milk supply of cities is second only in importance to its water supply. The most vulner-

able portion of the community to the attacks of disease are children." Milk inspection is strongly to be commended and no effort should be spared to render it as complete as possible.

The soil, even virgin ground, has been found to be filled with microorganisms in the greatest variety, to a depth of thirty inches; below this there is a great decrease in bacteria present and as you go further down, you find it almost destitute of germs. Marsh air is found impregnated with bodies which Maurel regards as amoeba in course of development. His researches, covering six years, have shown that the same organisms that exist in the air of these marshy regions are to be found in the blood of persons suffering under marshy diseases.

We have among us, unfortunately, many persons otherwise intelligent, who violently oppose vaccination as a preventive to smallpox. These certainly could never have studied the lessons taught by the statistics of the history of this most loathsome of the whole class of zymotic diseases, otherwise they are incapable of conviction.

Sheffield, England, suffered from an epidemic of variola. The death rate among the vaccinated was 4.4 per cent. and 41.3 per cent. among the unprotected; the mortality in cases when the patients were under ten years of age, showing an even greater difference, only *two* deaths occurring among ninety-five thousand (95,000) vaccinated children, to seventy fatal cases in five thousand (5,000) unvaccinated ones.

Reported attacks of diphtheria have been almost without exception traced to defective drainage.

Infection has been spread in several local outbreaks by cats as pets.

Some of these animals contracted the disease from their owners and infected their fellows, who, in turn, being fondled by healthy children, conveyed the contagion. The same fatal disease among the chickens is also a frequent source of the disease among the children of this State.

Pacific Medical Journal.

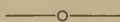
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COLDS AND CLOTHING.

The teaching of modern science and ancient custom goes to show that heat production within the body has much to do with the tissue changes concerned in muscular activity and with healthy digestion. It is conserved by warm and moderate, wasted in evaporation by excessive clothing. Finally, by a simple nervous reaction, it is increased after the contact of external cold. It follows from these observations that if we be so clad with comfortable underclothing that surface perspiration is not formed in excess and is rapidly removed; one great cause of chill—sudden evaporation—is done away with. Outer cold, then, provided it is not too severe, only touches, as it were, the spring of the heat-making metabolism, and, exciting an elastic rebound in the chain of vaso-motor fibres, awakens that oxidative action by which every tissue is made to yield its share of heat to the body. This bracing influence is lost wholly or partly to those who are too heavily clothed, and in its place we may have a dangerous excess of surface heat. It is for this reason that we have before protested, as we now do, against the indiscriminate use of the thick and heavy overcoat. We would rather see men in fairly robust condition, especially if young, clad warmly next the

skin, and wearing either a light top-coat or none at all. There can be no doubt that the habitual use of great coats is indirectly accountable for the chills which they are intended to prevent. Were the overcoat worn continuously it might attain its object. Its intermittent use, even when ample underclothing is worn, affords no solid guarantee of safety, but rather the reverse. The man of sedentary habits has especial need to remember this. He emerges daily from a warm breakfast-room clothed in his ordinary winter garments, with probably woolen underwear, and over all the heavy ulster or top-coat. After a short walk he finds that the sense of warmth he began with is more than maintained. He arrives at his office or place of business, and off goes the overcoat though the air of the newly opened room is as cold as that without, and draughty in addition. During the day perhaps he travels to and from adjacent business houses wearing only his house clothing. The overcoat is laid aside till closing time reminds him of the journey home. The frequent result is that somehow between the hours of his departure and return he is chilled. No doubt he would run as great a risk if, lightly clad, he were to face the rigor of a winter day. In this case, however, exercise and habit might do much to develop the power of endurance, and there would, at all events, be less danger of sudden cold acting upon a freely perspiring surface. Woolen underclothing represents a state of healthy comfort intermediate between these extremes, and more resistant to chill than either. In commending its use, however, we do not assert that

the influence of age and constitution is to be overlooked. Youth can oppose a power of resistance to depressing agencies which does not reside in the worn-out nerve-centers of a riper age. Similarly, that elastic reaction which characterizes the nervous and sanguine types is not to be looked for in the lax tissues of the lymphatic. The weaker physique naturally calls for fuller protection than the stronger; and any rule requiring the disuse of the overcoat should allow of reasonable exceptions in favor of the old and constitutionally feeble. Unusual severity of weather, especially if associated with night-air and the loss of sleep which this implies, is another condition which might well constitute an exception. In such a case we are compelled to add some form of overcoat to the ordinary amount of clothing. Some parts of the body—for example, the chest, throat and feet—are certainly more susceptible to cold than others. As a useful safeguard, cold or tepid bathing of such parts is in merited favor. The custom so common among many persons, especially women, of walking out in thin-soled boots often plays an important part in catching cold. The progress of time and of rational thought may be expected to bring in a more comfortable arrangement by clothing the foot in woolen hosiery and a stouter boot. — *The Lancet*.



DIET IN DYSPEPSIA.

THE diet should be strictly according to the following table:—

MAY TAKE

SOUPS, ETC.—Thin soups, Beef Tea, Broths.

FISH.—Raw Oysters.

MEATS.—Beef, Mutton, Lamb, Chicken, Game, Venison, Chopped Meat, Meat Pulp.

EGGS.—Poached, Soft Boiled, Raw or whipped up with water and liquor or wine.

BREAD AND FARINACEOUS ARTICLES.—Bread sparingly, Corn Bread, Rice Cakes, Stale Bread and Butter, Macaroni, Sago, Tapioca, Dry Toast.

VEGETABLES AND FRUITS.—Green Vegetables, such as Spinach, Turnip Tops, Cresses, Salads, Celery, Sorrel, Lettuce, String Beans, Dandelion, Chicory, Asparagus; Oranges, ripe peaches and pears.

DRINKS AND LIQUIDS.—Water, abundantly; Hot Water an hour before meals; Koumiss, Buttermilk, Milk and Lime Water, Milk and Seltzer, Tea, Claret, Dry Wines.

Thoroughly masticate all foods.

AVOID

Rich Soups all Fried Foods, Veal, Pork, Hashes, Stews, Turkey, Sweet Potatoes, all Starches and Saccharine Articles except as allowed, all Gravies, Made Dishes, Sauces, Desserts, Pies, Pastry, Puddings, Ice Cream, Sweet Wines, Malt Liquors, Cordials, Uncooked Vegetables, White Potatoes, Cooked Oysters.

In addition it will be necessary to give thirty drops of dilute hydrochloric acid together with about ten grains of a good pepsin after meals, and the bowels should be kept open. The great difficulty will be to hold the patient to the strict diet. In order to obtain success, however, this must be done, and in the majority of cases the result will fully justify the effort.

Of course the above table can be gradually extended or modified.

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NO. 1

ACUTE COLDS AND HOW TO TREAT THEM.

Dr. C. H. Stowell, of Washington, D. C., in a recent contribution to the *New York Medical Journal*, lays special stress upon the physiological function of the nose as a filtering agent, which not only protects the parts below from the irritating qualities of particles of matter as found in dust and smoke, but from disease germs. The tortuous structures over which the air must pass on its way through the nose make it altogether probable that all parts of the current of inspired air come in immediate contact with the nasal mucous membrane. It must follow that vast numbers of germs will adhere to this membrane. These germs may be those ever present in all inspired air, or those that may give rise to the gravest forms of disease. He quotes Dr. Roughton, of London, who has also called attention to this "screening action" of the nose, and believes that it greatly diminishes the prevalence of phthisis. But it must be kept in a healthy condition.

1. The nose should be kept clean.
2. All obstructions to nasal respiration should be removed.
3. Mouth-breathers invite diseases of the throat and lungs.
4. Mouth-breathers are more likely to have certain of the diseases caused by the entrance of germs in the body.

If the nose plays so important a part, how can it be kept in a healthy condition? By promptly treating acute attacks. If the patient can be seen in the early stage, he should have at once a hot foot-bath and a bowl of hot lemonade. He should then be placed in bed and covered with blankets until copious perspiration is produced. If seen at a little later stage, and the fever seems excessive and the whole system affected, then there are two marked remedies at our command—aconite and belladonna. The tincture of aconite is best given in small doses, half a drop once every half hour for a few hours, until its physiological action is apparant. If the discharge from the nose be thin or if the throat be involved, then small and frequently repeated doses of the tincture of belladonna will give marked relief. A brisk cathartic is often indicated and generally very desirable.

In the beginning of the attack the nasal mucous membrane is likely to be dry and swollen, giving the sensation of the presence of a foreign body, causing sneezing and a sense of fullness. In this early stage the abortive treatment, already alluded to, can be relied upon, if local treatment be combined with it. Cocaine and antipyrine are almost specifics for this trouble. They can be used as a spray in the strength of one per cent. of the former with four per cent. of the latter. Thus:

R Cocaine hydrochloride gr. ivss.;
 Antipyrine gr. xvij.;
 Sodium bicarbonate . gr. v.;
 Water ʒ j.

M. Sig.: Nasal spray.

This should be sprayed thoroughly into the nares. The swollen membranes soon retract, and nasal respiration is free and easy. The spray should be repeated as often as the nares become occluded. If any nasal symptoms remain after the first twenty-four or thirty-six hours, it is better to substitute a spray with an oil for its base. Thus:

R Cocain. hydrochlorid gr. ix;
 Aquæ ʒ ss.;
 Ft. solutio et adde
 Olei petrolei ʒ j;
 Olei eucalypti gtt. vj;
 Olei gaultheriæ gtt. iij.

M. Sig.: Nasal spray. Shake thoroughly before using.

This spray can be used morning and night for a few days only, or until the acute catarrhal symptoms have disappeared.

As atomizers cost money, and as they cannot be carried about readily, a powder may be substituted for both the above. Thus:

R Sodii bicarb gr. ij;
 Magnesiæ carb. (levis) gr. iij;
 Menthol gr. j;
 Cocain. hydrochlorid gr. iv;
 Sacch. lactis ʒ jss.

M. Sig.: Use as snuff.

The most marked relief will follow the use of this powder, and a few applications will do much to abort the catarrhal attack. Its effects are immediate, highly agreeable to the patient, and continuous for a number of hours.

In the case of young children,

where a powder or spray cannot be used to advantage, an ointment can be substituted. Thus:

R Cocaine hydrochloride gr. ix;
 Anhydrated lard, }
 Vaseline, } aa ʒ ss.

M. Sig.: Ointment for the nose.

A small amount of this can be placed on the end of a feather and inserted into the nose.

A word concerning any objection that may be urged as to the use of cocaine in this manner. 1. The amount prescribed in each case is small; especially is this true of the powder. The prescription given above will last a patient for days—in fact, his acute catarrh will disappear before all the powder is used. 2. Neither the sprays nor the powder should be continued after the first few days of the attack. 3. They should not be prescribed for chronic catarrhal affections; for while it is true they give great relief in chronic hypertrophic conditions, yet the relief is but temporary, and their constant use may give most undesirable effects. 4. The physician should dispense his own powder, giving not over a drachm to each patient. If possible, he should dispense the sprays as well. By so doing he will retain the power to prevent any overuse or misuse of the drug.—*Sanitarian*.

“OLIVE”-OIL FROM A NEW SOURCE.

IF THERE is any plant which does not or would not grow in some part of America, it does not occur to us at this writing; and not only so, but there is scarcely any animal or mineral product which is a source of wealth, happiness or satisfaction to any country

or climate outside of this fair land but that it is also produced, or something just as good, if not better than it. The historic olive, which has waved its dark-green branches over so many scenes connected with the birth of civilization and religion, flourishes in California as well as in Syria or in Italy, and we can, ere long, have all the olives and olive-oil of the classical kind that we require of our own production, if we will. But we need not want for olives and olive-oil so long as we have a wholesome substitute quite as good, if not, indeed, in some respects better.

It is a well-known fact that the olive crops of Italy, France, Spain and other countries, which have been relied upon for centuries, have been diminishing from natural causes. Fortunately enough, just as the supply of olive-oil is lessening and the price rising the cotton plant is found to give a substitute equal to the genuine. It is a case parallel with that in which the gradual extinction of the whale was rapidly followed by the discovery of petroleum and its products, and their superiority to whale oil, which had been for ages before depended upon as an illuminant and lubricant.

The "olive" plant of America is that which has been grown in the Southern States for many decades. With its appearance and methods of cultivation all are familiar: it is the cotton plant.

This wonderful *gossypium*, with its beautiful flowers and still more beautiful bolls, is fast becoming no less famous as a food product for both man and beast than it has ever been for yielding material for clothing and to make the sails for the whitewinged messengers which traverse the world

of waters. Besides which is now being used by millions of tons yearly in the production of food.

After the fibre has been ginned off and the lint removed from the seed for clothing, the seed are pressed so as to yield two things: Firstly, an excellent substitute for *olive*-oil as a salad dressing and in cookery; by mixture to improve the flavor and keeping qualities of hog's lard; and as a lubricant in the arts, particularly in wool finishing. Secondly, the compressed oil-cake, from which the oil has been expressed, still retains so large an amount of nutritive material as to be excellent food for cattle, and when insufficient use is found for it for this purpose, is no less excellent as plant food—among the most valuable of manures.

The ancient olive-tree gave shelter and food; the modern substitute, food and clothing.

A NEW METHOD OF TESTING WOOLLEN GARMENTS is by putting caustic soda into a cup of water and dipping the article, whose genuineness is doubted, into the mixture, of course being careful not to touch the liquid. The caustic soda will quickly eat animal fibres, but has no effect upon those of vegetable origin. If the article is all wool, it will be dissolved in the liquid, leaving nothing but a trace of coloring matter. If the material is cotton, it comes out unscathed. When the material is wool supported by a framework of cotton, the latter being distinguishable to the eye or by ordinary test, the caustic soda quickly divorces the two, dissolves the wool and leaves the cotton as clean as if it had been woven by itself.

LIGHT IN THE SICK-ROOM.

Dr. B. W. Richardson, in the course of a Lecture on "Disease, and How to Combat it," remarks as follows:

Still a custom prevails, despite all our sanitary teachings, that the occupant of the sick-room in the private house should be kept at all hours in a darkened room. Not one time in ten do we enter a sick-room in the day-time to find it blessed with the light of the sun. Almost invariably, before we can get a look at the face of the patient, we are obliged to request that the blinds may be drawn up, in order that the rays of a much greater healer than the most able physician can ever hope to be may be admitted. Too often the compliance with this request reveals a condition of room which, in a state of darkness, is almost inevitably one of disorder everywhere; foods, medicines, furniture, bedding misplaced; dust and stray leavings in all directions.

In brief, there is nothing so bad as a dark sick-room; it is as if the attendants were anticipating the death of the patient; and, if the reason for it be asked, the answer is as inconsistent as the act. The reason usually offered is that the patient cannot bear the light; as though the light could not be cut off from the patient by a curtain or screen, and as though to darken one part of the room it were necessary to darken the whole of it. The real reason is an old superstitious practice, which once prevailed so intensely that the sick, suffering from the most terrible diseases, small-pox, for instance, were shut up in darkness, their beds surrounded with red curtains, during the whole of their illness.

The red curtains are now pretty nearly given up, but the darkness is still accredited with some mysterious curative virtue.

A more injurious practice really could not be maintained than that of darkness in the sick-room. It is not only that dirt and disorder are results of darkness, a great remedy is lost. Sunlight is the remedy lost, and the loss is momentous. Sunlight diffused through a room warms and clarifies the air. It has a direct influence on the minute organic poisons, a distinctive influence which is most precious, and it has a cheerful effect upon the mind. The sick should never be gloomy, and in the presence of the light the shadows of gloom fly away. Happily the hospital ward, notwithstanding its many defects, and it has many, is so far favored that it is blessed with the light of the sun whenever the sun shines. In private practice the same remedy ought to be extended to the patients of the household, and the first words of the physician or surgeon on entering the dark sick-room, should be the dying words of Goethe, "More light, more light!"

EARLY RISING AND LONGEVITY.

Professor Humphry's recent Collective Investigation Report on Aged Persons, contains some very positive evidence on a matter which has already engaged the attention of moralists as well as physicians. "The opportunity for nutrition to do its restorative work was in nearly all provided by the faculty of 'good sleeping,' to which was commonly added its appropriate attendant, the habit of

'early rising.' " Thus there is a relation between early rising and longevity. No doubt many people will hastily seize upon the sentence just quoted, and employ it in edifying lectures or essays for the perusal of youth, or embody it in popular medical works. Important qualifications follow in Dr. Humphry's report, but they are likely to be overlooked. Doubtless the habit of early rising is, in itself, healthy; most of all, it is a good sign of health when it evidently signifies rapid recovery from fatigue. Again, it usually denotes a strong will, the gift, as a rule, of a good physical constitution, or at least the safeguard of average bodily strength. Late risers are generally either invalids or persons of bad habits, idlers who are never free from other vices besides idleness. The nervous exhaustion which keeps a man wakeful throughout the small hours produces sleep late in the morning. This exhaustion is invariably due to one of several life-shortening influences, especially anxiety or indiscretion in diet or drink. Early rising is thus rather one effect of certain favorable influences, another result of which is longevity, than a cause of longevity. To turn a weakly man out of bed every morning at seven o'clock will not prolong his life. It will be noted that by "good sleeping" Professor Humphry signifies quick sleeping, "that is, the reparative work which has to be done in sleep is done briskly and well. Here, again, we have an effect of a cause; but preventing a weakly subject from sleeping more than four or five hours nightly would not cause him to live long, but would rather tend to shorten his life. Equally important are Professor Humphry's observations which show

that by "early" he does not entirely mean the time by the clock. The word "has a relative significance with reference to the time of going to bed. A person who retires to rest four hours after midnight and gets up at 10 a. m. may be strictly regarded as an 'early riser.' " Thus early rising is synonymous in long life histories, with short sleeping, which means rapid recovery from fatigue, a sign of bodily strength. These scientific facts in no wise contradict the alleged value of early rising as a practice to be cultivated by all persons in good health. It is excellent as moral discipline, and eminently healthy as a matter of fact. Most persons will eat three meals daily. When a man gets up late those meals will probably follow each other at too short interval to be wholesome. When he is an early riser it will probably be otherwise. He can enjoy a good breakfast, and by the time for his lunch or mid-day dinner he will have an honest appetite again.—*British Medical Journal.*

MEDICAL AND CHIRURGICAL FACULTY OF MARYLAND.

Ninety-second Annual Session, held at the Hall of the Faculty, Baltimore, Md., April 22, 23, 24 and 25, 1890.

DR. AARON FREDENWALD, PRESIDENT,
IN THE CHAIR,

FIRST DAY, TUESDAY, APRIL 22D.

Address of the President.—The session was called to order at 12:30 p. m. After the reading of the minutes of the last meeting by the Secretary, the President delivered his address.

The Modern Hospital.—This subject had been suggested by contemplating the significance of the two new hos-

pitals which had been completed in this city in the past year. The Johns Hopkins Hospital was opened May 7, 1889, and the new City Hospital on December 23, 1889—the former the consummation of a most munificent foundation, the latter called into being by a religious order. The modern hospital should offer bountifully all that is made possible by an advanced science and by a refined humanity.

The origin of the hospital is remote and far from simple. It did not emanate from any single civilization. Many nations and ages contributed to its present development. The origin of the hospital has been traced as far back as the temple of Æsculapius at Titanus, 1134, B.C. The oldest Buddhist accounts of hospitals reach to the middle of the third century, B.C. The Spaniards found on their arrival in Mexico, that the Aztec civilization had amply provided for the sick and disabled in hospitals. These data show that hospitals had long been considered a public necessity. Besides the hospitals called *Hôtels Dieu*, established in France, the rage of leprosy, which continued up to the fifteenth century, was a potent factor in promoting the growth of hospitals. In England, the first hospital was established by Lanfranc, Archbishop of Canterbury, in 1070, and in Germany, Berlin, was the first city to open hospitals, about the same date. The famous hospital at Milan, with a capacity of over two thousand patients, was opened in 1456, and is still used. Military hospitals were first built in the sixteenth century, when Ambrose Pare established a hospital during the siege of Metz. The English did not have military hospitals until later, because it cost more to cure a soldier

than to levy a new recruit. In North America, Quebec is said to have had the first hospital in 1639. In 1658, a hospital was organized on Manhattan Island. To Benjamin Franklin and Dr. Thomas Bond is credited the original of the present Pennsylvania Hospital. In reviewing the history of hospitals, it is seen that they are of no recent origin, but while formerly they were intended for the poor, the needy, the debilitated and those without means; now, as is well known, there are many conditions in which a patient can be better provided for in a hospital than in his own home. Before closing the story of the hospital and its advantages, combined with the skill of the physician, it should not be forgotten to be mentioned the efficient, intelligent, and faithful nurse, to whose untiring devotion good results are so often due.

SECOND DAY, WEDNESDAY, APRIL 23D.

Abortion and its Effects, the subject of the Annual Oration, was delivered by Professor Joseph Taber Johnson, Ph.D., M.D., of the University of Georgetown.

All agree upon the importance and wickedness and frequency of abortion. It is steadily on the increase. Questions on drainage, sewage, quarantine, vaccination, and antiseptics are all important, but it is undoubtedly true that by the unnecessary and intentional destruction of the human foetus more lives are lost than are saved by all these agencies combined. Abortion occurs once in every five labors, and ninety per cent. of all married women have at least one miscarriage during their child-bearing life. Violent and premature expulsion of the products of conception occurs so frequently

that State legislation has been attracted to it, and in Massachusetts it is said that the native American stock in that State is dying out, the increase in the population being principally among the foreign population. One hundred years ago it was rare to see families of less than six children, and frequently there were ten; now it is rare to find as many as three, and often only one or none at all. Cultured Boston, the proud city of the Puritans, has become a Roman Catholic Irish city, rejoicing in a mayor with the classic name of O'Brien. Notwithstanding the endeavor by the American Medical Association and some writers in the distribution of "advice to mothers," the practice of abortion is not only not decreasing but is increasing each year. The difficulty of conviction for producing abortion is shown in the statement of the Attorney-General of Massachusetts, that of thirty-two arrests and trials of abortionists in that State, in a period of eight years, not a single conviction resulted, and this fact is equally true in Germany, a country otherwise very strict in the execution of its laws. The small risks that abortionists run in being convicted, and their large gains, all increase the frequency of abortion. Physicians are partly to blame for this state of affairs. They should endeavor to get proper legislation to punish abortionists, and even the women themselves who permit it—women, indeed, who would shrink from any other crime. The luxuries of life and the expense of maintaining a large family should not be considered excuses. The foetus is as much alive before quickening as afterward, and the crime is equal at any time after conception. As to the effects on

the woman, it is well known that miscarriage is more dangerous to the woman than labor at full term. It is not too much to say that two-thirds of the work of the gynecologist finds its chief cause in this evil. Much good can be done by the honest physician in preventing these dangers too frequent.

Medical Record.

STERILIZATION OF WATER.

BY CHARLES G. CURRIER, M. D.

As practical physicians we are constantly encountering more or less serious forms of disease that we feel justified in ascribing to the pernicious influence of bacteria, conveyed by and for a long time remaining actively alive in drinking-water. A sufficient number of reliable laboratory experiments bears us out in this view, and the instances where the cause of various attacks of typhoid, cholera and less severe diarrhoeal disorders lay in the use of infected waters would make an unpleasantly long list. The lessons derived from one epidemic do not stay the next one as effectively as we could hope; yet when such a danger has directly shown itself, the laity are for a moment ready to have its portent revealed to them. So it behooves us as practitioners to know just what we should counsel in order to insure the arrest, if we are not allowed to cause the prevention, of such seemingly inexcusable epidemics as the recent one of typhoid at Cumberland on the Potomac. Although the truth is gradually gaining currency that it is in general safest to consume water and milk like other foods, after—rather than before—cooking them, still most persons regard water when cooked as less pal-

atable than before the process has taken place, and adopt various other means to secure immunity from the diseases which impure water can unquestionably carry with it. To secure the desired result we must, as I have elsewhere shown at greater length, rely upon high temperatures. Even the familiar employment of carbonic acid gas does not render water from an impure source safe unless—as part of the process—the water has been adequately purified, and for this I would only advise heating. In continuing, during the past year, my examinations of numerous samples of different carbonated waters from various sources, I have repeatedly observed that some kinds of bacteria could actually increase to a certain degree in water charged with carbonic acid gas under a pressure of over one hundred pounds to the square inch. As for the original bacteria (whether harmless or harmful) in such “soda waters,” they tend to die off more rapidly when the gaseous element is present under the usual conditions than when these germs are in simple water. Thus the process affords some advantages; but the action is too slow and uncertain to allow us to recommend the use of an impure water which has simply been charged with some salts and with the gas.

The presence of a small proportion of alcohol, or of certain other chemicals, may arrest the development of some varieties of micro-organisms; but they are an unsafe reliance, as in any reasonable strength they do not destroy bacteria sufficiently to warrant their use in preference to the employment of heat.

* * * * *

Not enough experiments have been made to determine precisely how the

bacillus of tuberculosis changes its character and vitality when present for any time in clear water. It is within the limits of safety, however, to declare that under such circumstances boiling for ten minutes will have sterilized a given water as far as the tubercle bacilli contained in it are concerned. Anthrax spores are generally regarded as the most resistant of the disease-producing bacteria, and these I have by repeated experiments found to succumb, when in clear water, by heating at a steam temperature for five minutes or less. Kitasato has recently stated the same thing concerning the anaerobic germs of symptomatic carbon (*Rauschbrand*). The majority of harmful micro-organisms are much more sensitive, and the pus-producing ones are especially so. Thus the typhoid bacilli, like the various pus-cocci, do not survive after the water has been brought to the boiling point or near that, and allowed to cool gradually. Cholera germs are still more sensitive. To render them harmless a momentary exposure to a temperature of 70° C (158° F.) suffices. Hence we may say that if a suspected water be heated at the boiling temperature (or nearly that) for ten minutes, we have allowed more than time enough to insure the destruction of all germs recognized as harmful that may be in it.

* * * * *

Professor Anagnostakis, of Athens, refers to passages in Hippocrates and Galen to show that among the ancient Greeks pure boiled water, as also that to which salt had been added and then boiled, was valued for cleansing wounds and in surgical operations. We have since their time advanced in knowledge of the process of nature,

yet it is interesting to find the same means recommended in the latest communication of a typically skillful modern surgeon, Professor H. Fritsch, of Breslau, who announces that for the most hazardous and delicate operations, conducted, of course, with careful cleanliness, only a 6 to 1,000 solution of common salt is needed for washing wounds, and for the peritonæum this physiological fluid, when sterilized by heating, is preferable to water made sterile by the usual chemicals, as carbolic acid and corrosive sublimate, so much used nowadays for this purpose.

All surgeons must admit the importance of sterilizing the water used to cleanse the exposed surfaces in, for instance, an abdominal operation, where solutions of antiseptic substances are by some considered objectionable. It seems, therefore, well to know that all germs in the water used are rendered harmless if it has been boiled for an hour before the operation and then allowed to cool.

In a series of solutions of morphine and other alkaloids, steamed for the same time and then kept closed, I have found that they are now perfectly good after standing for over a year, for no micro-organisms remained alive in these, and no new ones have been allowed to enter. In some of these solutions, moreover, grape-sugar, milk-sugar and albuminous elements were present in abundance.

Although it is considered that the great majority of the numerous bacteria living in the waters supplied by the average hydrants are quite harmless, still every practical bacteriologist appears adverse to drinking-waters which he knows to be teeming with bacteria, and when asked to decide

between several given waters, would indicate his preference for one from a pure spring (where these low forms of life are at most only very sparsely present), as against the water from a sluggish river or lake draining a thickly populated region (in which water micro-organisms are exceedingly abundant), even though the two waters appear chemically not unlike.

* * * * *

Those who are doubtful as to whether boiling does not deprive water of elements necessary to perfect nutrition may be assured that such cooked water is eminently wholesome; indeed, by lessening the amount of oxygen and carbonic acid, the process of heating makes the water less liable to take up lead, lime and other minerals. The objection that heating "devitalizes" it can, of course, be urged against solid foods as well, and seems to be advanced most by those who criticise in a spirit of controversy. When the "vitality" of hydrant or well-water means the presence of disease-germs, it seems far from being a recommendation. Among our antipodes, as well as in many model families of our own race, the practice of cooking water is prevalent, and, as far as can be learned, the effects seem distinctly salutary rather than otherwise. The absence of the agreeable taste produced by oxygenation seems the chief objection. This is a considerable one, and can be in part remedied by the introduction of a small proportion of teas or agreeable salts; or air can (in a primitive fashion) be introduced by a bellows in the absence of more elaborate apparatus.

Conclusions.—Unless extraordinarily resistant, water becomes sterilized if it be at or near the boiling temper-

ature for fifteen minutes. If the same degree of heat be maintained for five minutes, all harmful micro-organisms will have been destroyed. Still less time serves to destroy the disease-producing varieties which are recognized as liable to occur in water. Thus merely raising to the boiling point a clear water containing the micro-organisms of malarial disorders, typhoid, cholera, diphtheria, or of suppurative processes, and allowing it to gradually cool, insures the destruction of these germs. They are also destroyed by keeping the water for from a quarter of an hour to half an hour at a temperature of 70° C.

Occasionally, however, very resistant but harmless bacteria may get into water. The brief heating renders them safe for drinking purposes; but when it is desired to destroy every micro-organism that may be present in a contaminated water, it should be heated for one hour and allowed to cool slowly. Then it may be used for cleansing wounds or for alkaloidal solutions which will keep indefinitely if no germs be introduced after the solution has been heated.

Medical Record.

THE FEEDING OF PUERPERAL CONVALESCENTS.

BY CHARLES MEIGS WILSON, M. D.,
Physician in charge of the Philadelphia Lying-in-Charity, etc.

No dietary regimen for convalescents has undergone in the last few years a greater change than that for women resting after the fatigue of their lying-in. The old-fashioned idea, until recently taught, and even yet generally followed and accepted by

the mass of the profession at a distance from centers of medical thought and progress, that women undergoing their puerperal convalescence should be fed upon a skimp diet, is happily for the credit of the profession and the welfare of patients rapidly becoming a thing of the past. The notion so prevalent thirty or forty years ago, that to give a puerperal convalescent a good, wholesome, easily digested and easily assimilated diet was a dangerous procedure, has gone forever, and given place to a proper dietary regimen, based upon the clinical observation of what is needed to best restore the whole economy to its regular hygienic functional activity, to restore the vital forces of the patient, exhausted or overtaxed by the process of parturition, to enable her to furnish the proper amount of nutritive material to supply the wants of her own economy, and to furnish a proper pabulum for the sustenance of her offspring. Aside from the first requisite, the proper sustenance of the mother herself, all dietary regulations should also have in view the fact that lactation must be promptly and efficiently established, and that, too, in such manner that it shall entail upon the mother the least physiological strain and loss of strength. The foregoing facts are, of course, patent to every observing man, and with their acceptance, the practitioner is at once faced with the two propositions—first, what then is the proper diet for a lying-in woman? and second, how must it be modified to best support and nourish her in any accident or emergency which may occur during her puerperium? With reference to the first proposition, having started out with the acceptance of the fact that the woman needs

easily digested and easily assimilated food, in quantity sufficient to furnish a proper pabulum for her own and her offspring's nourishment, and by the term proper, I mean a sufficiency of quantity as well as a proper standard of quality, what then shall be a proper bill of fare for a woman going through a normal convalescence following a labor? In private as well as in hospital practice it has been my habit to carefully instruct my nurse after every case of labor, as regards the diet of the patient, telling her as soon as the patient is properly cleansed, and the room put in order, to bring her a cup of hot tea or coffee, well diluted with milk, and a small piece of softened water toast or a small water cracker. If the patient has a liking for cocoa or chocolate, all the better, and indeed in the Lying-in Charity this is a favorite article in use for primary alimentation. If the patient prefer it she may have instead, a glass of milk, or milk slightly diluted with water, charged with carbonic acid gas. This may be given hot or cold, but as a rule warm or hot drinks are most acceptable to the patient, better born by the stomach, and have the additional advantage of stimulating the uterus to contract, thus insuring prompt primary involution of that viscus, and lessening the likelihood of secondary post-partum hemorrhage. After the patient has had an interval of repose and rest, and upon her expressing a desire for food, the nurse is directed to give her a cup of animal broth, beef, chicken or mutton tea, to which has been added some rice or barley, the latter so long immersed and so well boiled in the soup that the grains are disintegrated. Then at the next meal time the patient may

have a soft cooked egg or some milk-toast made out of stale bread; in addition she is given from time to time a glass of milk. No form of easily digested and nutritious food for which the patient may have a desire, provided it be of the semi-solid variety, however, should be interdicted. And thus the patient should be fed until the bowels are moved. This, it is my habit to have take place at the end of forty-eight hours.

In the Lying-in Charity this is accomplished by giving one or two drachms of compound licorice powder in a half tumbler of water on the evening of the second day, followed, should it fail to move the bowels, by a rectal enema of two ounces of glycerine on the morning of the third day. I know of no better plan to pursue in private practice, provided the patient will submit to it. It makes no difference what laxative is used, provided it is mild in its action and non-drastic. The object desired is to gently move the bowels. Once an evacuation from the bowels has taken place the patient is allowed to use her own choice in the matter of food, except that all indigestible and fatty foods are interdicted, as well as the leguminous vegetables—peas, beans, potatoes, and such like. On the contrary, she is urged to eat of green vegetables—salad, asparagus, and so forth. Meat is given for the morning and noon meal, if the patient desire it, but the evening meal is always a light one and of a simple character. Midway between each meal, and at bedtime, the patient is given a glass of milk to which has been added a half an ounce of lime water. It is essential to see that the bowels are opened at least once in every forty-

eight hours. This is best accomplished by getting the patient to take a little stewed fruit in the way of dessert, as stewed prunes or prunelles, or an orange before breakfast. If these simple means fail the licorice powder and glycerine enema should be repeated. The foregoing directions as regards the diet of the puerperal convalescent apply, of course, only to those whose convalescence is a normal one—devoid of pyrexia—and uncomplicated by sepsis or any other accident of the puerperium. Now, as regards our second proposition. How shall this dietary regimen be modified by any of the accidents of parturition or of the puerperal state? In reply, it is necessary to state that each accident of labor and every deviation from a normal puerperal convalescence needs more or less change or modification of the diet. Let us consider first the conditions of exhaustion following a tedious or protracted labor. Here the great thing is to speedily restore the vital forces, and to do it in such a way that the little strength or vitality left the patient shall be taxed in the process of digestion and assimilation as little as possible. To meet these indications the patient should be put almost exclusively upon a milk diet, because that food is most easily assimilated and digested and quickly turned in the economy into life-giving strength. Under these circumstances also, small quantities of alcohol are indicated; as a drachm or two of whisky or brandy every two or three hours. This diet may be varied by giving occasionally a small quantity of Valentine's fluid extract of beef, properly diluted with water, or some concentrated animal broth. Where profuse post-partum hemorrhage has

taken place, the first need is stimulation—a cup of hot coffee—followed at short intervals with as much milk, diluted with lime water and given in small quantities, as the patient will take. Mild stimulation is also needed. One of the most acceptable agents to use for this purpose is champagne, a dry brand, or whiskey or brandy diluted with carbonated effervescing water. No form of food more quickly restores the volume of blood, and makes up for the blood lost, in post-partum hemorrhage than milk. Where labor has been complicated by uræmia, eclampsia, or albuminuria, and when, of course, the circulation is loaded with retained urea and teems with excrementitious matter, the patient wants food to support her through her ordeal of complicated convalescence, whose digestion will yield but little urea. What better food have we for this purpose than milk? Under these circumstances, also, all forms of meat should be excluded from the patient's diet. It stands without need of defense that wherever pyrexia supervenes the patient should have an absolutely liquid diet. Should the patient have diabetes, a diabetic diet should be employed, from which all articles of food containing sugar and starch should be excluded. Acute illness developing during puerperal convalescence requires no different diet from that which would be employed had the disease appeared other than at the puerperal period. Where galactoceles or galactorrhœa—in other words, hypersecretion of milk—occurs, the patient should be placed on a dry diet, *i. e.*, one in which the liquids are excluded as far as possible. On the other hand, where the mammary glands fail to properly perform their

functions and secrete a sufficient supply of milk to afford nutritive pabulum for the child, the diet should be, as far as possible, liquid in character and rich in the elements of nutrition; hence, of course, we would give milk, as much as the patient can take, and concentrated animal broths. For this purpose I have frequently used, with great satisfaction, strong gruels made of Mellin's food. Where the stomach has been irritable, or non-tolerant of food, I have met with the best success in feeding my patients by using peptonized sterilized milk, sterilized after the method of Prof. Soxhlet, and peptonized with some good pepsin. The directions herein given for the alimentation of puerperal convalescents are based upon the clinical observation and experience of more than a thousand cases of labor and puerperal convalescence, the majority of which occurred in the Philadelphia Lying-in Charity, where every possible means was afforded for observation, and where faithful records of all cases were accurately kept. They are also based upon a series of interesting experiments in which the amount of milk secreted and the amount of urea excreted were carefully noted, as compared with the kind and amount of food given.—*The Dietetic Gazette*.

COFFEE INEBRIETY.

Dr. Mendel, of Berlin, has lately published a clinical study of this neurosis, his observations being made upon the women of the working population in and about Essen. He found large numbers of women who consumed over a pound of coffee in a week, and some men drank consider-

ably more, besides beer and wine. The leading symptoms were profound depression of spirits and frequent headaches, with insomnia. A strong dose of coffee would relieve this, for a time, then it would return. The muscles would become weak and trembling, and the hands would tremble when at rest. An increasing aversion to labor and any steady work was noticeable. The heart's action was rapid and irregular, and palpitations and a heavy feeling in the precordial region were present. Dyspepsia of an extreme nervous type was also present. Acute rosacea was common in these cases. These symptoms constantly grow worse, and are only relieved by large quantities of coffee, generally of the infusion. In some cases the tincture was used. The victims suffer so seriously that they dare not abandon it for fear of death. Where brandy is taken only temporary relief follows. The face becomes sallow, and the hands and feet cold, and an expression of dread and agony settles over the countenance, only relieved by using strong doses of coffee. In all these cases, acute inflammations are likely to appear any time. An injury of any part of the body is the starting point for inflammations of an erysipelatous character. Melancholy and hysteria are present in all cases. Coffee inebriates are more common among the neurasthenics, and are more concealed because the effects of excessive doses of coffee are obscure and largely unknown. Many opium and alcoholic cases have an early history of excessive use of coffee, and are always more degenerate and difficult to treat. A very wide field for future study opens up in this direction.—*The Quarterly Journal of Inebriety*, April, 1890.

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Devoted to the prevention and cure of diseases and injuries, and the promulgation of the laws of health and life.

M. B. SHIPP, M. D., EDITOR.

SALT LAKE CITY, OCTOBER, 1890.

EDITORIAL.

DURING the winter months of last year's volume we published the lectures of Drs. Shipp, instead of the regular issue of the *SANITARIAN* proper. The past summer we have been engaged traveling through the settlements and cities of this and adjacent territories, lecturing on the subject of sanitation, and in consequence did not commence the third volume until now, October. We are not aware of any hinderance liable to occur to prevent the regular monthly issue of the *SANITARIAN* for the coming year. We gratefully acknowledge the kindly interest that so many of our friends have expressed for the welfare of our publication.

The subject of sanitation and prevention of disease is growing in public favor. The developments that sanitary science is making for the promotion of health is extremely satisfactory.

We hope to give faithful service through the columns of the *SANITARIAN*, that the readers of our journal may be kept thoroughly informed upon all advances made in sanitary science that will tend to individual or public benefit.

MATERNAL IMPRESSIONS.

Elsewhere in this number we have given an article by Dr. Buckle on the

above subject because of the many valuable thoughts and suggestions advanced on it.

Evidently the doctor is not very much of a believer in the "effects of maternal impressions," a position in which we do not altogether concur. To our mind the weight of authority leans decidedly the other way. One of the arguments or propositions used by the writer is, "There is no way by which impressions made on the mother's mind can be physiologically conveyed to a particular part of the fœtus. We do not believe a mental impression can alter any part of the mother's system."

Is it not well understood that the digestion or the functions of the stomach may be deranged or interfered with by emotional feelings, fright or sudden shocks? Or what shall we say of the heart's action, palpitation for instance, and its resultant changes that is sometimes brought about by nervous action or the "mind of the mother?"

Is it not a fact that a mental impression can and does alter or make a disturbance "upon some part of the mother's system," as we have just instanced? And if this be the case is it not reasonable to conjecture that such effects, especially in highly sensitive organizations, may not be imparted to the developing embryo? The remarks of the writer upon the importance of the conduct of the father and of young women marrying fast young men, cannot be too seriously entertained.

There can be no doubt that the kind of life that the expectant mother lives has much to do with the proper development of her child.

Her life should be as free from care and anxiety as possible.

DISEASED CRAVINGS AND PARALYZED CONTROL.

In a series of interesting articles in the *Edinburgh Medical Journal*, December, 1889, to May, 1890, Dr. Clouston discusses this important and difficult subject in its general aspects, and adds his views, to which we cannot now particularly refer, in regard to the peculiar characteristics of each of the prominent drug habits.

Desires are but the indications of the needs of the organism. In a perfectly healthy man all his desires and cravings can as a rule be gratified in some proper way at some proper time, so as to promote the good of body and mind, none requiring absolute inhibition. The proper time and way to gratify them is determined by the controlling influence of reason, experience, and law. A craving which leads to harm is a diseased craving.

The strongest and most subtle desires of man arise in the highest centres of the cerebral cortex—in the emotional centres, and are not necessarily connected with any functional activity of the lower nervous centres, as the sympathetic or visceral ganglia.

The impulses which guide and regulate these desires must also proceed from the highest cerebral regions. They are not purely of a spiritual nature, but are associated directly with physical changes in the brain-tissue. The waste of substance which occurs during the exercise of such inhibition is evidenced by the feeling of fatigue and the circulatory changes which follow any prolonged attempt to direct or to restrain the desires.

For the manifestation of hurtful desires there must be present a diseased craving, and also a paralysis of control.

The peculiar work that the nerve-cell must do requires that it should be not sluggish and stable, but sensitive and unstable. In certain individuals this sensitiveness and instability are carried to excess and the cell acts in an explosive manner. In a motor cell this abnormal condition gives rise to convulsions and exaggerated reflexes; in an emotional centre, it causes explosions of passion and diseased cravings. A tendency to this emotional condition is obtained by heredity from ancestors whose brains have been subjected to undue excitement or have been poisoned by alcohol, opium, or syphilis.

Such brain-cells, when fatigued by their own excessive action, which is frequently out of all proportion to the strength of the body, excite an intense craving for restorative agents. Now, recuperation through rest and food is a slow process, and very irksome to many individuals. They find in alcohol and certain other drugs something which has a special affinity for these tired nerve-cells, which produces a rapid and pleasurable relief to the sense of fatigue, enabling them to continue their immoderate activities without the refreshment and rest which is really needed. The result is that, when the influence of the drug is gone, a double weakness is felt and an increased temptation to resort to the drug, moreover, as Dr. Clouston expresses it, a "memory" of the craving for the drug continues for a long time, and may even be handed down to posterity as a quality of the foetal nerve-cell.

Inhibition or control over the emotions and over conduct is the highest function of the human brain. Among savages and persons of little culture

control may be very feeble in regard to some emotions and very strongly developed in regard to others. In the child control of the emotions is gradually developed, and that more rapidly in some than in others. The power to do the right and refrain from the wrong is earliest seen in a good stock. This power is slow in development, or may never become strong, in the children of habitual criminals, drunkards, and insane persons. The power of inhibition and control may, even in the best stock, be destroyed by alcoholic poisoning.

Just as diseased cravings may occur without paralysis of control, the cravings being kept in check by the will, so paralysis of control may exist without the occurrence of diseased cravings, the patient, though destitute of the power to resist evil suggestions from without, like a person hypnotized, yet passing through this diseased state into convalescence without doing anything amiss, requiring only a little wise guidance from the attendant. In most cases, however, diseased cravings and paralyzed control occur together, although it is not easy to see why the one should involve the other.

In conclusion, the coexistence of these states may arise from or accompany: 1, Inherited feebleness of brain power; 2, neurotic states in adolescence; 3, continued dissipation; 4, excessive mental strain; 5, lack of education in right ways; 6, want of needed mental stimulation, as from social intercourse; 7, physiological strains, as menstruation, in persons of nervous temperaments; 8, insanity, as a complication; 9, insanity, as an alternative state; 10, gross brain disease, as from injuries; 11, senile

brain degeneration; 12, disease of parts other than the nervous system, as a complication.—*Medical Record*.

THE SHORTCOMINGS OF SOAP.

There are probably few people who do not find the joy of living made less keen by having to read each day the advertisements of popular soaps. Their good qualities are so superlatively good, their effect on the complexion, the health, and longevity so unailing, their chemical composition in each case so remarkably in accord with all that exact science and dermatological art could produce, that it discourages the medical man, who finds so much in his own measures that are imperfect and incomplete.

We read, therefore, with a certain sense of relief the results of an investigation made by Dr. B. H. Paul, in the *British Journal of Dermatology*, on the composition of these highly lauded toilet soaps. Dr. Paul states that for bodily ablution soaps should not contain an excess of alkali but should be neutral or nearly so. He found, however, that among toilet soaps, as usually met with, a perfectly neutral soap is the exception, and that a trustworthy soap of that kind is still a desideratum. Three of five soaps of the higher grade were described as "super-fatted" soaps, one of them being alleged to have been prepared according to Unna's formula. But in fact they all were found to contain the full proportion of alkali required for the saponification of the fat, besides some additional potash, which in one of them was considerable. It seems, therefore, that the perfect soap is yet to be made.

PREVENT THE SPREAD OF
CONTAGIOUS DISEASES.

BY THE EDITOR.

The carelessness that is so general among all classes in handling and caring for patients that are prostrated with some contagious disease, is the great cause of the rapid spread of such maladies here in the mountains. As a rule but little effort is made to confine the disease to its original limits. The well persons are constantly exposed to the contagion. If sickness of this character appears in a family, no attempt is made to protect the remainder from exposure. Disinfection is the potent factor to be relied upon. The following extract taken from the New York *Sanitarian*, advances some excellent thoughts bearing upon this subject, which should command the careful attention of every household :

“*The danger limit for scarlet fever contagion* varies with the period of desquamation, which is more or less rapid in different subjects. Hence the isolation of convalescents should vary accordingly, and should in no case terminate until desquamation is complete. It is rarely accomplished in less than forty days from the onset of the disease, and may not be, in feeble subjects, in less than twice that period; and during that time, no matter how long it may be, the subjects of scarlet fever should be prohibited from school or any other contact with other children; they should also be prohibited from public places and travel in public conveyances.

“Desquamation is promoted and the danger of infection is diminished by daily warm bathing and a plentiful use of *pure* soap, particularly to the

hairy scalp, followed by inunctions of benzoinated (or otherwise aromatized) lard, during the whole period of convalescence. Instead of such cleansing and anointing *the danger is frequently prolonged* by the employment of antiseptic soaps and solutions of such strength only as to be worse than useless, because they prolong the period of disintegration and destruction of the desquamated particles.

“*Disinfection* is quite a different matter. It cannot be effectually applied to the person at any time, or to the room of the sick during occupancy, without danger. But it can be measurably applied, and the danger of infection mitigated. The rooms occupied by the sick and the convalescent alike should at all times be kept thoroughly ventilated. Physicians who are careful to require this, who do not spend an unnecessary length of time in the room with the sick, and who, when they have had cause to handle the patient, are careful to wash their hands in an *antiseptic solution* of corrosive sublimate, one dram to the gallon of water, which should be kept for the purpose, rarely carry infection. Nurses and all other persons much in the rooms with scarlatinal patients, or, indeed, any other infectious disease, should keep themselves from contact and association with other individuals, sick or well, who are liable to contract the disease, and wherever it is not possible for them to do so they should be especially particular with regards to the septic condition of their hands and clothing. Their nursing clothing should be of linen as much as practicable, or hard-finished cotton. They *should always*, on leaving the room for an outing or before comingling with other people, wash their hands in

the corrosive sublimate solution. The wearing apparel and bedclothes of the sick, and that of the attendants which cannot be promptly sent to the wash and in the first place subjected to *boiling water for not less than one hour*, should be kept in the meantime in an antiseptic solution of corrosive sublimate of twice the strength of that above given. Shoes should be thoroughly washed inside and out with the same. All worthless material should be promptly burned.

“Disinfection by Steam.”—As soon as possible after the removal of the sick, the room or the whole house, hospital ward, or the whole hospital, as the case may be, if the exposure to the disease has been of long continuance, still retaining all the bedding, bedsteads, carpets and upholstered furniture, everything that has been exposed that is worth preserving and not washable, should be *disinfected by steam* if practicable; and it is much more easily so, in cities especially, than persons generally, who have had no practical knowledge in the premises, imagine. India-rubber hose is now made to stand a temperature above 212° F. By means of a sufficient length of it coupled to the boiler of an ordinary fire-engine, with steam under such pressure as any of the boilers of such engines is abundantly capable of, steam at the temperature of 175° to 212° F., which is high enough, can be applied and kept up, as long as necessary, with great facility. Primarily the room, building or ship to be disinfected should be closed up as tightly as possible. All chimney flues, stovepipe holes and other like openings should be plugged, and all chinks around windows and doors carefully stuffed. Pieces of car-

pets, quilts and blankets may be the better exposed by hanging them over the windows, which may by this means be made all the tighter. Feather beds, mattresses, pillows, etc., should be thrown across the backs of chairs or otherwise exposed on all sides; and so, too, carpets, to better protect them against excessive moisture from the condensation of the steam, should be triced up through the stairways or hung on lines or racks.

“The length of time required for disinfection by steam, depends somewhat upon the nature of the material to be disinfected. For the steam to thoroughly penetrate feather beds, hair mattresses and upholstered furniture, it should be kept up from two to three hours. Where there is nothing more compact than carpets and woollen clothing, from twenty minutes to half an hour is abundantly sufficient.

“Disinfection by Sulphurous Acid Gas is, next to steam, all things considered, the most effectual and least destructive agent to clothing and furniture. For its use the same pains should be taken with regard to closing all openings and exposing the material on all sides as with steam, except laid carpets which may be allowed to remain. But extra care should be taken to protect against fire. The pots or pans to hold the sulphur should not be filled up to the brim, and every one should be set in or over another vessel containing water. Thus protected, and the amount of sulphur proportioned at not less than three pounds to every one thousand cubic feet of space and properly distributed, it may be easily fired by the addition of a little alcohol or kerosene and a match. The space should be kept

tightly closed, subject to the fumes, for at least six hours.

"A good deal has been said and published recently, mostly on theoretical grounds based upon laboratory experiments, by persons who have had little or no practical experience in the application of disinfectants, on the necessity of adding more moisture to the space and to the material to be disinfected by sulphurous acid gas than that provided as above directed for protection against fire. Considerable practical experience by the writer in the use of sulphur to disinfect rooms, furniture and clothing used by the sick with small-pox, scarlatina, diphtheria, measles and whooping-cough, without any such addition and without any subsequent recurrence of the disease in the premises, is our justification for believing additional moisture unnecessary, while it greatly adds to the bleaching power of the vapor, despoils carpets and upholstery, which it will not otherwise do.

"*Disinfection of the dejections* should also be effected in infectious diseases of every kind, because otherwise they are a source of widespread danger, no matter what the means of final disposal. One of the most easily obtainable as well as one of the most efficient agents for this is a solution of *chloride of lime*, half a pound to the gallon of water. Some of this should be constantly kept in the bed-pans used by the sick, and it should be freely poured into the water-closets connected with the house drains every time they are used. *Quicklime*, in the same proportion as that directed for the *chloride*, is almost, if indeed not quite, as efficient used in the same way.

"*Corrosive Sublimate Solution*, half an ounce (with an equal quantity of

muriate of ammonia to render it soluble) to the gallon of water, *sulphuric*, *muratic* and *carbolic* acids, one part of either to two parts of water, are also efficient, but they require particularly careful handling on account of their corrosive properties, while they are no more efficient than the substances previously named; but none of them act immediately. The dejections should be thoroughly covered by and stirred into the solution, and let stand at least two hours before they can be considered thoroughly disinfected, and safe for the compost heap.

"Doubtless there are many physicians whose practice is too exclusively confined to the cure of disease, and some health officers whose special duty it is to protect the public health by the prevention of disease, who will consider these views and directions extreme. But to all such *more attention to the mortality from infectious diseases and the value of human life* is urged as the reason above all others why better and more efficient methods should obtain. If *preventable* mortality is indeed *criminal* mortality, as now generally conceded, surely it is high time that those who are entrusted with the duty of preventing mortality should be held to a stricter accountability than hitherto.

"*The safe disposal of the dead from infectious diseases* requires the utmost care from the outset. Public funerals over such should be absolutely prohibited. That *cremation*—and that speedily—is the safest means to the living is no longer an open question among sanitarians. When this cannot be accomplished, the body should be encased as soon as practicable, the bottom of the case being first covered with a layer of *quicklime* and the same

substance stuffed in on the sides and over — completely enveloping the corpse on being laid in. The case should then be tightly closed, not again allowed to be opened under any circumstances, and speedily interred at least six feet deep and not less than two hundred feet from any well or watercourse."

DO MATERNAL IMPRESSIONS AFFECT THE FŒTUS IN UTERO TO PRODUCE MONSTROSITIES AND SO-CALLED MOTH- ER'S MARKS?

BY C. ANNETTE BUCKEL, M. D., Oak-
land, California.

(Read before the Alameda County Medical
Association, November 12th, 1889.)

It is probably admitted by all that impressions of physical violence made on the mother may affect the fœtus in utero. For instance, a blow may detach a portion of the placenta, cause hemorrhage, and weaken if not destroy the fœtus. Poison taken by the mother may poison the child. A violent mental shock has also been supposed to affect the development of the child, and perhaps no one will deny that impressions on the mind of the mother may affect the development and growth of the child in utero, as they certainly may act on her own health. The question at issue, however, is, can impressions made on the mother's mind by certain objects or thoughts, produce deformities in the fœtus similar to those which impressed the mother, or can the child's mind be affected by the thoughts or so-called longings of the mother? From the earliest ages there has been a general belief that the

child could be thus influenced. *Medical* men have fostered that belief and the majority of writers in the latest works I have been able to consult favor the idea.

Prof. Dabney, of the University of Virginia, in Keating's Encyclopedia of Children's Diseases, treats the subject more methodically than any whom I have consulted, who favors the belief. Prof. Dabney realizes that science can throw very little light on the affirmative of this question. His argument is based, therefore, on this fact: That a coincidence is certainly seen between the cause of the impression on the mother and the nature of the defect in the child. He had collected ninety cases of deformity described by medical men and gives a table showing the name of the reporter, the exact place where it is reported, the period of pregnancy in which the impression was received, the cause of the impression and the nature of the defect in the child. Prof. Dabney argues, that as development of the child goes on regularly, and there can be no retrograde process going on in different parts, the maternal impressions which produce deformities or monstrosities must be received in the early period of pregnancy before the parts are fully developed. For instance, hare lip could not be produced after the union of the two palatal bones, an acephalus could not be generated after the cranium was once formed, etc.

So-called mother's marks, such as moles, strawberries, beefsteak, blotches of wine, etc., are affections of the skin; as the skin is later in its development, the impressions which produce such blemishes may be made later in the pregnancy.

Prof. Dabney finds in the ninety

cases, wherever the time was known in which the impression was made, it corresponded as it should with the time at which the resulting deformity could be produced.

The stories of the ninety cases are certainly stories of remarkable coincidences. Perhaps one of the most striking is that of a lady who was very fond of a woman who had one blue eye and one black eye and was lame, her child had the same peculiarities; as these were so striking there could not have been the possibility of a merely imaginary resemblance. Prof. Dabney concludes that as all of these ninety cases are reported by reliable medical men, and the mothers were able to give the date of the impression which produced the deformity, a few of them had even predicted before the birth just what the appearance would be, and the resulting defect was what was indicated by the cause of the impression, we are forced to conclude that the alleged cause produced the resulting defect. The fact that we cannot explain how the result is produced, does not prove that it is not produced, therefore Prof. Dabney does not attempt to explain, he simply says these coincidences are too remarkable to be explained on any other known hypothesis, therefore we must believe, that if a pregnant woman is violently shocked by the sight of blood, and her child has a red mark on its skin that mark was produced by the shock, etc.

Dr. E. Seguin, of New York, gives an instance of one of Napoleon's high officers, turning pale at the sight of a parlor sword, because his mother before his birth, saw her brother killed by a sword. Dr. Arthur Mitchell, of London, stated before the Obstetrical Society of London, that he could

trace clearly six cases of idiocy to maternal impressions. Distinguished members of the New York Obstetrical Society have avowed their belief in the possibility of maternal impression producing certain deformities in the foetus in utero. It cannot be said, therefore, that the idea of mother's marks is an old woman's superstition. The doctors from the earliest ages have announced it and encouraged it, and believed it, and still continue to do so. The physiologist and embryologist may be skeptical, and those physicians who demand scientific demonstrations for their belief may also doubt, but so long as man of standing in the profession, and of great popularity with the public, openly express their belief, woman who have no medical education and but very slight knowledge of physiology will accept as true what is inculcated by their physicians, and this is the reason so many mother's not only suffer from the rude shock which first frightens, but suffer untold anguish from the fear that their offspring will bear the hideous marks of their fright. If physicians really believe in such possibilities, why do they not strive to protect woman and their unborn children? If it be possible for innocent beings to be thus cursed all their lives why not strive to protect them? The very fact that pregnant woman are allowed to live in their accustomed ways without restraint or limitation, proves that the danger of mutilating their offspring is not very imminent, and that people are not very deeply impressed by its possibility. I will not take your time to investigate the origin and growth of the embryo and foetus in detail; you all know that the germ in the ovum, the embryo in the fallopian tube, the

foetus in the uterus are entirely beyond the control of the mother. She cannot voluntarily or at will change the growth or function of a single cell. There is no way by which impressions made on the mother's mind, can be physiologically conveyed to a particular part of the foetus. We do not believe a mental impression can alter any part of the mother's system, why should we believe it can do a still more difficult thing, impress the system of the foetus which has an independent life of its own so far as growth and development are concerned? What we actually know about embryology and physiology makes it impossible to believe that a mother can thus impress her offspring without bringing in the aid of some mysterious unknown influence which otherwise has no use or function. Now, the number of deformities which are accounted for in this illogical way is very small compared with the number which is expected according to the same illogical method of explanation, and compared with the total number of births is infinitesimal.

Would it not be more reasonable to suppose that these few cases of remarkable coincidences are due to physical causes inherent in the germ or are developed during growth than to attribute them to an occult mysterious influence which no one has ever even attempted to explain. I suppose that all superstitions which have been handed down through ages have had some good reason for their existence. In early days a few of the wisest made rules for controlling and governing the many who were ignorant. The wise ones did not explain the reason why these rules were to be observed, the people were too ignorant.

They gave them rules, and in order to enforce obedience they attached a penalty to disobedience.

It was thus Moses taught the Jews many sanitary laws, and other wise men taught other hygienic measures. It is quite possible, that, in the early times, the sages who tried to protect woman in pregnancy, found it necessary to add to their rules for treating them, the threat that if men did not protect them and screen them from scenes of violence and discord, their offspring would be cursed with the marks of their brutality. In this way they were probably able to secure peace in the family, when they might have otherwise failed, and it is quite possible that those remarkable coincidences might then happen often enough to serve as a warning to cruel fathers or brutal husbands. The ancients had a great aversion to all cripples or deformities, and a man might be deterred from beating his children in his wife's presence by the fear of having deformed offspring, when he would not otherwise control himself, and so the tradition may have come down through the ages. It seems to me, now that men, and women too, are amenable to reason, it is time that doctors and teachers should strive to enforce their instruction by illustrations and explanations which can be comprehended, and not encourage beliefs and superstitions which have nothing but conjecture to support them.

Teach men, still, as the ancient sages probably did, that women during pregnancy should so far as possible be kept in a happy frame of mind, and in good physical health. They should be treated with kindness and indulgence because their condition

makes it oftentimes more difficult for them to control their emotions and heightened sensibilities. They are often more easily excited and more easily wounded in their affections, and less amenable to reason.

This is particularly the case if they are in ill health or of delicate natures unused to care or responsibility. Instead of allowing them to be tormented by the fear that some horrid sight which they have accidentally witnessed is going to deform their precious child, teach them how to live so as to become strong, self-controlled and self-possessed, patient and courageous; and, what will have more effect on the child than any nervous shock to the mother can have, teach the father to be self-controlled, moderate in self-indulgence, and encourage him to become such a man that his unborn child may one day be proud to call him father.

Although I do not believe that the mother's sight of any horrid object will cause the child to resemble that object, I do believe that vice in the father will vitiate the character of the child. I believe that intemperance of the father in any form, whether in drinking, eating, smoking, chewing, or any other habit, weakens the moral character of his children as well as their physical vigor and I believe it to be the physician's duty not only to relieve women from the dread and fear caused by old superstitions, which rest only on conjecture and remarkable coincidences according to those who believe in them, but they should more fully impress upon the public the fact that unsound fathers cannot have sound children. Let young women learn that if they marry fast young men, they will quickly sink in-

to ill health and self-contempt even if they do not have children to weep over and regret that they were ever born, sickly, puny things, that have to struggle through life weighed down by the ignorance and vices of their parents. Such children are worse deformed than club-feet or hare lips can make them, and their fate is more pitiable.

I believe that if young men were properly instructed they would shrink from dangers which they now openly brave.

It is very curious to see the arguments which educated medical men use to establish their points. A recent writer in a medical journal reasons thus about tobacco: In all ages of the world, among all nations, men have sought some kind of stimulus. This proves that there exists in the nature of man a demand for stimulant. Hence it is not wrong to use tobacco, for it satisfies the demand. According to this style of logic, I might reason: Men in all ages of the world, among all nations, have sought some sedative, it satisfies the natural longing, therefore, it is right to use opium. Another medical Professor writes substantially thus: From the earliest ages it has been taught and believed that impressions made on the mind of the mother may cause deformities in the foetus corresponding to those impressions. Sometimes the mother does not expect her child to be impressed when it is found to be marked according to the forgotten impression made on her mind; more times it is not affected at all by the impressions which she was sure would affect it. In perhaps one case out of ten thousand, the defect in the child corresponds to the impression made on the mother,

therefore, that impression caused the defect in the child.

Can such reasoning as this be accepted by intelligent physicians? I am happy to say there is now and long has been a respectable number of medical men who fail to see the force of such arguments. — *Pacific Medical Journal*.

THE EIFFEL TOWER AS A MOTHER'S MARK.

The Paris correspondent of *The Medical Press* is responsible for the story that a woman from St. Quentin visited (being at the time, about four months pregnant) the late Paris exhibition. One of the sights which seemed to strike her the most and to have an extraordinary influence on her nervous system was the celebrated Eiffel tower; small blame to the poor woman! Recently she was confined and the child bears on its chest a well-defined reproduction of the monument.

TUBERCULOSIS IN SLEEPING-CARS.

THE plush, velvet and silk hangings must go. Seats must be covered with smooth leather that can be washed off; carpets give place to rugs, to be shaken in the open air at the end of every trip—better still, abolished for hardwood floors; the curtain abomination must make way for screens of wood or leather; the blankets of invalids' beds be subjected to steam at a high temperature; mattresses covered with oiled silk or rubber cloth that may be washed off; and, above all things, invalids provided with separate compartments shut off from the rest of the

car, with the same care which is taken to exclude the far less offensive or dangerous smoke of tobacco. Cuspidors half filled with water, and consumptive travelers provided with sputum cups which may be emptied from the car. It is not necessary to say here that the sole and only danger lies in the sputum. The destruction of the sputum abolishes the disease. When the patient learns that he protects himself in this way as much as others—protects himself from the auto-infection, from the infection of the sound part of his own lungs—he will not protest against such measures. —*Dr. I. W. Whitaker, in the American Lancet*.

THE INTERNAL REVENUE RECEIPTS FROM ALCOHOLIC LIQUORS, were for the first six months of the current fiscal year, from July 1st, to December 31st, 1889: from distilled spirits, \$39,164,949.08, an increase over the corresponding six months in 1888, of \$3,799,468.92; from fermented liquors, \$69,077,832.08, an increase over the same period in 1888, of \$5,766,266.59.

If the costs to the nation by disease and premature death, vice and crime, among the liquor consumers for the same period could be summed up, the amount would be greatly in excess of the revenue.

Surely, under such appalling circumstances, if prohibition is impracticable, as the law-makers declare, they should at least devise some means of restriction. For this progress from bad to worse is not only sapping the health of the people, but the national purse.

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NO. 2.

FOOD—ITS RELATION TO HEALTH.*

MISS JULIET CORSON.

To prepare food for perfectly nourishing and strengthening the body is a process within the compass of any intelligent woman; for enough is known of its chemical composition, and its effect upon the system through the physiological process known as destructive assimilation, to establish definite lines upon which to build up a suitable and practical theory of dietetics—that is, the use of food in direct relation to our bodily needs.

Scientific investigators have demonstrated the fact that certain foods produce within the system definite and positive effects. For instance, it has been demonstrated beyond question that the use of stimulants can be regulated by consuming a fixed line of foods. I do not hesitate to assert that the wife of a drinking man can, in many cases, so plan his food as to largely control his desire for liquor, and with his consent and help she can destroy it, unless it has been so persistently indulged as to have fixed upon him the disease of dipsomania in an aggravated form; or unless that disease has been inherited, in which case medical treatment is imperative. When the advocates of prohibition have requested me to refrain from using

liquor in giving cooking lessons, they have asked of me impossibilities, considering my position as a teacher of cookery; and I have replied to them that personally I favored temperance in all things, that its teaching was one of my lines of work, that they could accomplish more general reform from drunkenness by following that special line of my work than by the mere use of words, however eloquent; I have said that when any responsible temperance organization will properly publish it I will prepare a temperance cookery-book, which shall be planned to serve as a guide to every-day cooking in homes where the use of liquor is avoided. Of course we cannot expect to make old-fashioned Christmas plum-pudding and mince-pies without using wine or brandy; but there are innumerable and most savory dishes of all kinds into the composition of which no liquor enters.

Personally, I believe that there are certain kinds of food and medicine which, in chronic cases, give more beneficial ultimate results than alcohol; but when artificial stimulus is called for in an emergency, I have been assured by many physicians that they have no agent which will so rapidly accomplish certain physiological action; and when they use it they guard against the depression it causes. The habitual drinker does no such thing. When he feels badly, after the reaction sets in, he simply takes another drink of his original poison. I will

* Address to the Brooklyn Institute, Brooklyn, N. Y., November 11th, 1889, "On the Promotion of Health," in connection with the Health Exhibition.

venture to offer a suggestion to habitual tipplers against the next time when some stimulant shall be desired, if our total abstinence friends will absolve me from any blame of advocating the use of liquor. There is a French preparation of mint—our familiar herb peppermint—which is to be found in most wineroms and clubs, a small glass of which, mixed with shaved or powdered ice, is not only a most refreshing beverage, but a stimulant from the ordinary use of which no intoxication is felt, and from which no reaction, or, rather, no depression results. When one is weary, overtaxed, exhausted, this is an excellent restorative, like other preparations of peppermint.

To return to the subject proper, of food and its effect upon the body: The sense of taste is not only a minister to our pleasure—the capacity for appreciating the various flavors of food—but it is the first stage in the process of digestion; the indication that we shall favorably receive the elements combined in the form of nutriment which is necessary to the maintenance of vigorous and enjoyable health.

It is not a sin to linger over our food, to enjoy it to the extreme; the more pleasant it is, the more good we receive from it. Even the sense of sight, gratified by an attractive refreshment, spread upon a well-laid table, prepares us for receiving all possible benefit from it. No original operation of nature can justly be termed reprehensible; and, therefore, the time employed in placing our food before us in the most appetizing manner is well spent; there is as much reason for accepting every advantage from eating and drinking in healthful moder-

ation as there is for admiring a cloudless sky or the awful beauty of a summer tempest.

In addressing you upon this relation of food to health, our greatest difficulty lies in the selection from among the many points worthy your earnest attention. It would require a course of lectures, rather than our one small friendly talk, to offer you even an outline of the subject. Perhaps I can best serve the purpose of your committee by submitting a brief general outline of dietics, and then answering any questions you may address to me. We may preface our discussion by accepting the fact that to insure perfect digestion we must have all the digestive organs in good condition; from the mouth, where the saliva performs its first office, where mastication prepares all food to be acted upon by the intestinal juices, to the sound flesh of the body in the midst of which the healthy blood is constantly engaged in transmuting all the nutritive elements gathered from our food.

Returning for a moment to the action of the senses of sight and taste. We naturally close the eyes away from the sight of any unpleasant substance, like a nauseous dose of medicine, while we truly say that even the sight of some dishes makes the mouth water; in other words, so pleasantly does sight present the idea of the food to our consciousness that the salivary glands respond at once, and the moistening of the mouth which results, not only prepares us to discriminate between the flavors, by stimulating the sense of taste, but also begins that chemical transformation of elements which is the first step in the process of digestion. Some degrees of taste are absolutely an exercise of the sense of touch, such as

the biting, acrid taste of an astringent like alum, or the smooth, bland taste of good olive oil.

Let us locate some of these perceptions of taste upon the tongue: the *tip* and *front* edges are specially sensible to the action of *sweet* and *sour* qualities in food, because they excite the papillæ or tiny projections of nervous flesh which cluster thickly there, and which communicate directly with the gustatory nerve running to the base of the brain.

Salt and *bitter* flavors affect the *back* and *base* of the tongue; and, because the nerves there located are so intimately connected with those of the throat and stomach, they communicate instantaneously by contact; and when the flavors are so pronounced as to be nauseating, muscular contraction is sufficiently marked to cause nausea, even to the extreme. These keen conditions of sense are impaired and eventually destroyed by the excessive use of alcohol and tobacco.

Even this detail will show somewhat the extent of discussion over which our subject would lead us had we time to follow it. But we must be content to indicate a few leading facts, and enlarge only upon those most applicable to daily life.

Nutrition, or the transmission of the nourishing properties of food to the human body, is influenced by age, climate, season, occupation—in or outdoor, active or sedentary, mental or physical—exercise and exposure to weather, and the general condition of health; by the daily supply and variety of food, its freshness and suitability, its digestibility or the reverse state; for we are always proving the truth of the old adage that "What is one man's meat is another man's

poison." The question as to whether we shall eat this or that food can only be answered by testing the effect it has upon our health and strength.

In estimating the average quantity of cooked food required to keep an adult man in good working condition some definite experiments have been made by careful men of science; the *resume* of some of their conclusions is as follows:

Professor J. C. Dalton calls for $38\frac{1}{2}$ ounces of cooked solid food and $3\frac{1}{4}$ pints of fluid; Dr. Brown-Sequard, from 36 to 42 ounces solid and 2 pints fluid; Dr. Letheby, 38 ounces solid and 3 pints fluid daily. As all these authorities are unquestionable, we must conclude that the difference in their estimates is occasioned by the nutritive quality of the foods tested, the season at which the experiments were made, and the personal physical requirements of the experimenters; we must average these examples, using them to indicate the lines upon which we may safely proceed to make our individual estimates.

General usage has ascribed a three-fold character to the articles of food in ordinary demand; they are termed nitrogenous or flesh foods, carbonaceous or heat foods, and phosphatic or brain and nerve foods.

Flesh food maintains the general vigor, and is required in abundance by laborers, athletes, soldiers and sailors, and all persons liable to be called upon to make short and disconnected exertions of strength in addition to ordinary demands upon them; the nutriment they need abounds in fresh lean meat, salt pork, ham, and bacon, the red-blooded fish, oatmeal, unbolted flour, eggs, cheese, milk, cabbage, onions, asparagus, celery, salads,

cauliflower, corn, spinach, peas, beans and lentils.

Heat food keeps the bodily temperature at a normal point, and affords that kind of nourishment necessary to slow, steady workers, and invalids suffering from wasting diseases; it includes fine flour, honey, sugar, butter, the fats and oils, fat mutton and beef, pork and fat bacon, liver, oily fish, grapes and sweet fruits, rice, potatoes, beets, carrots, turnips and parsnips.

Brain and nerve foods are properly those which are very nutritious and digestible, which yield the most nourishment with the least tax of the digestive organs; they constitute the diet required by intellectual workers, nervous invalids, and dyspeptics; this class of foods includes delicate game, poultry, oysters, fruit, especially the sub-acid varieties, juicy vegetables, and certain artificial chemical compounds usually prescribed by physicians.

A bountiful table generally offers that variety of nourishment required by the different physical conditions and occupations which are likely to occur in every large family or public household. If the catering is conducted intelligently there will be meat, vegetables, bread, and a wholesome dessert; part of the meat and vegetables should be served in the form of a soup or liquid stew; this point is so closely connected with the nutritive process that housekeepers should attend closely to it. Poultry and fish should vary the ordinary fare when they can be obtained; and fruit, either fresh or stewed, should be eaten frequently. The soup would supply both heat and flesh food; fish would give flesh, brain, and nerve food; meat would be chiefly flesh food, unless it were fat, when it would combine heat food; white

bread, pastry, and puddings, would be composed principally of heat food; vegetables combine the various elements, besides furnishing the waste matter so indispensable to health; but if vegetables alone were eaten, in a quantity sufficient to sustain the strength, their bulk would be physically injurious. The fact must always be born in mind that all kinds of food are valuable to just that degree in which they afford the elements demanded by certain conditions of the system.

It is true that appetite is largely governed by habit, and that we have to learn to eat even such ordinary foods as oysters and tomatoes; but it is also a fact that personal idiosyncrasies sometimes make such apparently benign aliments as milk and eggs nearly equivalent to poison. It will not, therefore, be superfluous for us to give some thought to certain marked peculiarities of ordinary esculents. It will be only these marked peculiarities that I shall specify now.

Oysters contain iodine to a perceptible extent, and sufficient pepsin to digest in their own fluid. Red-blooded fish, which also contains iodine, is a restorative in consumption, especially if it is of an oily nature, like mackerel and salmon; the oil of fish is believed to stimulate the entire system and quicken the circulation, thus causing thirst. During the spawning season the oil is largely replaced with water, and the hygienic value of the fish is correspondingly reduced. The oil of herring, shad, mackerel, eels, trout, and salmon is distributed throughout the entire flesh, and thus augments its alimentary value but in most of the white-blooded varieties, such as cod, haddock, and flounder, it is confined principally to the liver; hence the

usefulness of that organ in the preparation of the oil so much used for consumptive persons.

Beef is the meat usually chosen to supply concentrated animal food; the juice of rare beef free from fat, and properly made beef tea, act as stimulants in cases of impaired nutrition, and also supply valuable salts to the system.

Milk and cream can be used advantageously in similar cases, where they do not tax the digestive powers. In hot weather small quantities of hot milk taken frequently are preferable to the use of iced drinks. In some cases of gastric derangement milk relieves pain and allays inflammation. Milk diet is successfully prescribed by celebrated physicians to meet certain forms of disease, and "milk and whey cures" have been known for ages; the Swiss "Cures" were resorted to by the Romans in the time of the Empire.

Among beverages tea, coffee, and chocolate are anti-spasmodics and nervous stimulants; chocolate, both in the familiar paste and in cocoa shells and nibs, is nourishing as well as stimulating.

Coca, which is coming into use among chemists in the preparation of certain nourishing tonics, is the dried leaf of a plant quite different from the Theobroma tree, from the seeds of which cocoa is made; it is more properly a medicine than a food.

Among the condiments salt is absolutely necessary to the preservation of health; pepper, and the different spices and aromatics, are grateful aids to appetite and digestion, besides possessing the properties of abating flatulence, and preventing or dispelling nausea. I am now referring to their

moderate use by adults. Olive oil is nutritious and laxative.

White sugar is an excellent demulcent, and has the effect of softening some of the harsher properties of the acid fruits; it also quenches thirst when used with water as drink. Molasses and raw sugars are laxatives, and the poorer grades should be cautiously used on that account.

Sea-weeds and mosses are nutritious tonics and good demulcents, useful in soothing any irritation of the alimentary tract.

Entire cereals, such as cracked wheat and oatmeal, are very nutritious, and contain a good quantity of the valuable mineral salts of lime, soda, silica, magnesia, potash, and phosphorus; the whole cereals are gently laxative.

Sago, tapioca, arrowroot, farina, corn-starch, rice, and barley are bland, demulcent nutrients.

Breads made from rye, corn, or graham flour are nutritious and laxative; those made from fine white flour and gluten flour are constipating, as are all concentrated foods.

Vegetables generally are laxative. Cabbage, garlic, onions, Jerusalem artichokes, horse-radish, spinach, lettuce, watercress, asparagus, and celery are diuretics, and consequently useful in rheumatism; the last, celery, is a strong nervous stimulant. All vegetables contain potash, lime, iron, and other valuable mineral salts.

Fresh fruits, such as apples, pears, peaches, grapes, lemons, and oranges, are excellent laxatives; dried figs, prunes, and tamarinds possess similar qualities. Lemons, limes, oranges, and tamarinds are well-known remedial agents in rheumatism, scurvy, and jaundice. Cranberries, which contain an excess of citric acid, have marked

antiseptic properties. Grapes, which in Europe have assumed an important curative position, contain glucose, chalk, soda, manganese, oxide of iron, potassium salts, and phosphoric, sulphuric, and tartaric acids; their organic acids are changed to carbonic acid in the blood; they are excellent in dyspepsia and in fevers. In the absence of grapes some of their valuable elements may be obtained from pure wine and from raisins, which are also very nutritious.

If any attempt is made to apply these specified properties of different foods to certain physical conditions, the fact must be borne in mind that the condition of the foods is greatly affected by the season in which they are used, the manner in which they are stored, and the methods employed in preserving them. It must be remembered that juicy fruits are best at the point of ripening.

Succulent vegetables, such as spinach, cress, small salad plants, and garden herbs, are prime just before flowering.

Roots and tubers are best at their maturity, and deteriorate by long exposure to a dry atmosphere.

Meats and poultry are best in winter, when they are generally full grown, and the temperature permits their keeping until the tenseness of fibre immediately succeeding killing has passed away.—*Sanitarian*.

THE CŒLIAC AFFECTION IN CHILDREN.

The abdominal affections of children are, notwithstanding much good work that has been done in recent years, still involved in a good deal of obscurity, not to say confusion, and we therefore feel especially indebted

to Dr. R. A. Gibbons for his paper, with the above heading, in the *Edinburgh Medical Journal* for October and November, in which he gives a concise and lucid description of a malady which has hitherto almost entirely escaped separate recognition. The title he has chosen means, as he is careful to explain, nothing more than the affection is one of the abdomen, and involves no theory as to its causation or pathology; it was used by Dr. Gee two years ago, in a lecture at the Hospital for Sick Children, Great Ormond Street, London, and subsequently in a paper published in the "St. Bartholomew's Hospital Reports." The malady is one which, without being at all common, is by no means unknown, and many practitioners of large experience will, on reading the description of Dr. Gibbons, be able to recall one or more instances of it. The disease is characterized by the passage of large, loose, white or whitish, frothy, intensely fetid motions; it is an affection of early life, occurring in children under five years of age. The onset is gradual and insidious, pallor and general debility being the most noticeable symptoms. The fetid character of the motions is sometimes the first indication that there is anything wrong with the child; the motions resemble oatmeal porridge, or, as the mother said to the writer not long since, the motions are "exactly like the Chapman's flour he is taking;" generally there is only one action of the bowels a day, but that is extremely copious; there may be two or even three stools daily, and occasional attacks of diarrhœa are not uncommon. The appetite is poor or capricious, abdominal pain is often complained of, the abdomen is

generally soft and doughy, the liver may be just palpable, the spleen is not as a rule enlarged, and no enlarged abdominal glands can be felt. Anæmia and great debility are usually very marked features, the child being incapable of any exertion; but, as a rule, there is no wasting; the flesh, however, is not firm as in health, but soft and flabby. The malady is a very serious one, as the children are very liable to die from mere exhaustion, or to be carried off by an intercurrent watery diarrhœa, and relapses are exceedingly prone to occur. Improvement, as a rule, first shows itself in a healthier condition of the evacuations. The prognosis must, therefore, always be grave, and will depend upon the means and intelligence of the parents, and their ability to carry out all the directions as regards diet, which are so essential for the child's recovery. Nothing is known as to the pathology; no constant changes have been found upon examination after death, either with or without the microscope, nor has microscopical examination of the motions or blood during life added anything to our knowledge of the disease. In treatment, the most scrupulous attention to every detail of diet is essential. Cow's milk must be forbidden, owing to the insoluble character of its casein, and ass's milk should be substituted; cream may be given mixed with scalded whey prepared from cow's milk. For the principle meal, pounded raw meat should be used, either beefsteak or mutton, it matters not which; it should be freed from skin and fat, cut up, finely pounded in a mortar, and rubbed through a hair sieve. It should be given with a little sifted sugar or fruit jelly and a pinch of salt; the amount

will vary from one to four tablespoonfuls, according to the age of the child; if this is not well borne, the juice extracted from the raw meat by hydrochloric acid should be given. Plain biscuits or rusks with plenty of fresh butter may be allowed, and a little floury potato; malted foods will also sometimes be found useful. The hygienic surroundings of the child should be carefully attended to, and he should be clothed entirely in silk or wool. As regards drugs, Dr. Gibbons places great reliance on bismuth with compound tincture of camphor, or the compound kino powder for attacks of watery diarrhœa; when there is vomiting as well as diarrhœa, he recommends minute doses of gray powder. The explanation which Dr. Gibbons offers of these cases is very plausible, though, as its author freely admits, it is at present purely theoretical; it is that the secretions of the liver and pancreas and the intestinal juices are deficient. A diminished supply of bile is quite consistent with the colorless character of the stools and with their fetor, for, as is well known, the bile is a great antiseptic; the fermentation which they are thus permitted to undergo in the alimentary canal will fully account for their extraordinary bulk. A deficiency in the pancreatic juice would probably have the same effect, and it is consonant with this theory that starchy foods are exceedingly badly borne by the sufferers from this disease. Dr. Gibbons therefore suggests that owing to some unknown influence acting through the nervous system, there is inhibition of the secretions of the liver and pancreas, and probably also of the glands of Brunner and follicles of Lieberkuhn, the result being the

production of the motions which are characteristic of this disease.—*The British Medical Journal*.

DIPHTHERIA AND MANURE.

The connection between human diphtheria and cognate maladies of the lower animal creation has now been placed on so firm a basis that it is but a step further to postulate an association between this disease and manurial refuse. Dr. Airy, in a recent report to the Local Government Board on an outbreak of diphtheria in the Samford Rural Sanitary District of Suffolk, has shown that in a particular village in this district the outbreak was immediately preceded by the passage through it of a cartload of London manure landed from a barge near by. Several children returning home from school complained of the stench from the cart and sickened soon after. These cases set others going and the disease was then disseminated by school attendance and the like. Though, as Dr. Airy suggests, the foul effluvia of the manure may have acted by hastening the growth of the diphtheria only, yet he considers some weight should be given to the suggestion that the earlier cases were, in some way or other, due to the introduction of the manure. He states that the traffic in manure has increased greatly in these parts of late, and points to the great increase of diphtheria in London since 1882. Dr. Airy's suspicions as to the ability of manure to convey disease are confirmed by the medical officer of health, Dr. Elliston, who has observed scarlet fever to develop in certain places after the deposit of London manure. Similar experience is also

forthcoming from Strood, in Kent. The whole question of this association between infectious disease and manurial refuse deserves the attention of sanitary workers and observers. Whether the association is one of coincidence only or is truly causative, extended inquiry alone can determine; and if the latter be the case, it will yet have to be said whether the infection is a direct one, that is, whether the poison contained in the manure is derived from a toxic animal's discharge or secretion; or whether the infecting manure acts only as a *nidus* or multiplying ground for the resting forms of certain specific contagia which may gain access to it. We trust that all who have opportunity of observation will not fail to record any facts bearing on this highly important and interesting problem.—*Medical Press*.

FATAL RESULTS OF LACING AMONG SAVAGES.

We have been told that the vices introduced by white men are depopulating the South Sea Islands, but now it would appear that white women are also responsible for the rapid depopulation of New Zealand. When female missionaries went among the Maoris they insisted that the Maori women should wear clothing. The latter could not be induced to overcome their prejudice against skirts, but discovering that the missionary women wore corsets, they decided that the latter was a garment not wholly devoid of merit. The result is that every Maori woman now goes about her daily work neatly clad in a corset laced as tightly as the united efforts of half a dozen stalwart warriors can lace

it. Being unaccustomed to tight-lacing the women are dying off with great rapidity, and the repentant female missionaries now regret that they ever asked their dusky sisters to consider the question of clothing.

DISPOSAL OF HOUSE-REFUSE.

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Read in the Section of State Medicine at the Fortieth Annual Meeting of the American Medical Association, June, 1889.

Household life necessitates the deportation of several different kinds of refuse matter, consisting of excremental substances, liquid wastes from the kitchen and the laundry, baths and basins, garbage, sweepings and dust of various sorts. As regards the first of these, the average for each individual is 57 pounds of *faecal* excreta and 114 gallons of urine annually; or, for a family of five persons, 285 pounds and 570 gallons respectively. The danger from these is not when they are freshly voided, but after decomposition has set in, favoring the evolution of noxious gases and volatile products of putrefaction. Where atmospheric oxygen has free access, the principal results of decomposition are ammonia, carbonic acid and water; but in large accumulations, where air cannot thoroughly penetrate, deleterious compounds are generated, bacterial ferments multiply, and ptomainal products are given off in increased quantity. An additional peril arises where the intestinal discharges are impregnated with the virus of specific diseases, such as cholera, enteric-fever, and probably other diarrhoeal maladies, though even in this case it seems

to be requisite for the development of the contagium that decomposition shall have reached a certain stage. When urine is mixed with *faeces*, fermentation occurs more rapidly and with greater evolution of volatilized organic products. For these reasons it is of prime importance that such matters be removed from any possibility of communication with the interior of the house, or of its inmates, before they shall have time to decompose—that is to say, for practical purposes, within twelve hours.

But a grievous mistake, made by many engineers and by some superficial writers on hygiene, is to consider the intestinal and renal dejecta as the only things to be cared for, whereas in reality they constitute less than one per cent. of the offensive residua which should be speedily removed from inhabited places. The feathery masses of decaying epithelium from basins and baths, or the organic scourings from soiled clothing, not only afford fertile culture media for microzymes, but are often specifically infected; the culinary outpourings are virtually weak organic broths, responding readily to inoculation; indeed, all the water supplied to the domicile is discharged in so foul a condition that prudence forbids its retention on or about the premises. There is little difference in the sewage of towns whether excremental matter be admitted or excluded, and in populous communities where “dry methods” are used, it is found necessary to construct sewers in addition. Lier-nur’s pneumatic system and other schemes based upon the single view of the manurial utility of undiluted excreta are open to the same objection.

If the arch enemy of mankind had been asked to suggest the most mis-

chievous method of dealing with these waste products, he could not have devised a more djabolical one than that which is commonly adopted, not alone in sequestered rural regions, but in the majority of villages, and which lingers as a relic of barbarism even in many cities, to wit: the storage of them in pervious privy-pits and cesspools, whence the festering liquefied filth permeates the soil over a wide area, polluting the surface wells which are usually in convenient proximity, and poisoning with its noxious exhalations the ground atmosphere which is drawn into the basements of ill-constructed houses.

Of the various plans for the "dry disposal" of excreta, the simplest is admixture with dry earth or sifted coal ashes, using either a shallow cemented pit, a box, or other receptacle above ground, or one of the more elaborate patterns of earth-closets. While this may be practicable for single houses or for very small villages, the difficulty of carrying it out on a larger scale is almost insurmountable. It is estimated that for a population of 10,000 more than one hundred tons of dry earth would be required weekly, and the supply and removal of such a quantity would involve expensive machinery. It is an error to suppose that the fertilizing quality of this earth after use will compensate for its transportation. Even when it has been redried and used several times it is no richer than ordinary garden soil, and is absolutely worthless as manure. In many places abroad the tub or pail system is employed with more or less satisfactory results, movable vessels receiving the excreta with or without the admixture of ashes, chaff, or other absorbent or deodorizing substances, and being re-

moved once a week or oftener by the public authorities, the more voluminous remainder of the sewage being reserved for irrigation or "intermittent filtration."

In rural or suburban districts, where there is a reasonable amount of ground about the house, with grass or a small garden plot, liquid wastes may safely be distributed on the surface; not poured persistently on the same spot, after the manner of the average handmaiden, to create an artificial swamp close to the foundation walls, but scattered thinly and alternately over a wide extent of growing vegetation. A piece of land 20x25 feet will amply suffice to utilize all the "slops" of an ordinary household, if due regard be paid to their distribution, avoiding, of course, the vicinity of the well, if the water-supply be derived from this source. A neater but costlier plan is "subsoil irrigation" through a branching system of loose-jointed small drain-pipes, laid about a foot below the surface of the ground, so as to distribute their contents within reach of the roots of plants. To render this method effective it is almost essential to collect the sewage in a tank with an automatic mechanism for discharging at stated intervals, since a continual trickling would fail to flow to the terminal branches, and without preliminary subsidence the suspended solids would be apt to clog the pipes in a sluggish current. Too great a descent, on the other hand, will carry all the discharge at once to the farther end of the drains, thus thwarting the purpose of uniform distribution. The proper grade for pipes in this system, according to Colonel Waring, who is one of its strongest advocates, is not more than 6 inches in each 100 feet. Be-

yond the æsthetic consideration of putting things out of sight, this sub-soil system has no special advantage over surface irrigation; indeed, where large quantities of sewage are to be dealt with the latter is preferable, if it be intermittent. For both methods perviousness of the soil is a pre-requisite, and a clayey or other moisture-retaining ground should first be thoroughly underdrained; for it is to be remembered that the purifying power of "dry earth" resides not in the earth itself, but in the air contained in its interstices. It is an accepted belief that the bacilli of "nitrification" have their usual field of action in the uppermost two or three feet of a fairly pervious soil, while at a greater depth those which preside over mischievous putrefactive processes predominate. This limitation, however, cannot be arbitrarily fixed, since it depends upon the depth to which the soil is aerated, and in a water-logged earth it may be confined to a few superficial inches. In properly selected or prepared ground the water of sewage (if not too profusely applied) filters downward, leaving its suspended and most of its dissolved matters to the ventilated laboratory above.

A desire for all attainable "modern improvements," conjoined with the imperative demand of the imported domestic vicegerent for "hot-and-cowld - wather - and - stationary - tubs," has brought into general vogue, even in rural abodes, water-closets, kitchen sinks, fixed hand-basins, and the rest of the complicated paraphernalia of the "water carriage" system, which is a very good system if the plumbing arrangements are intelligently planned and well constructed, if there be a sufficient water-supply to flush and thor-

oughly cleanse all waste-pipes, and if a safe outfall be provided, but which, if made to discharge into a leaching cesspool or to pollute the nearest stream, to the detriment of riparian residents below, is anything but an unalloyed blessing. If a cesspool be permitted in connection with such a system, it should be of small capacity, absolutely water-tight, ventilated by means of an air-pipe reaching above the level of respiration, and emptied frequently. Its liquid contents, which comprise about seven-eighths of the fertilizing materials, may be utilized in a garden by either surface or subsoil irrigation, and the precipitated solids deodorized with lime, copperas, or other agents, for deportation to such destination as chance or the public authorities may afford. On a scale of more expensive magnitude, where arable or pasture land of suitable quality is at hand, a well-masoned "settling basin," with an overflow into a distributing tank, answers satisfactorily. In communities with a public system of sewerage the final disposition of the sewage does not concern the householder as an individual, though it should interest him more than it usually does in his collective capacity.

The grosser refuse solids which go under the generic name of "garbage" constitute the bane of social existence, from the domestic "swill pail" to the "dumps" of large communities. Even where the corporate authorities assume the duty of gathering them from the separate premises they are usually deposited in an aggregate of nastiness at some convenient spot on the outskirts, whence their exhalations vitiate the atmosphere for miles around, or, mixed with mineral rubbish of different kinds, are used by some contractor to

fill in prospective building sites, for the gradual murder of future tenants. The common rustic makeshift of burying them in casual shallow pits handily contiguous to the domicile must in time overtax the disinfectant capacity of any soil, and is, as a rule, rather less advisable than the prevalent urban practice of throwing them into a neighbor's gutter or over the roadway. The best way to get rid of such things is, unquestionably, to burn them. Cremation is the manifest destiny of organic matter in all populated places. It means a rapid and innocuous, instead of a slow and possibly dangerous, process of oxidation. In either case organic substances are never destroyed, but their chemical compositions are changed and their elements are profitably recombined in nature's laboratory. In the most humble household the incineration of vegetable matters may be easily effected in a cooking stove or range, if they be put in a little at a time. An ingenious metallic pail with a water-sealed cover and a hinged grated bottom has been anonymously invented by a member of this Association, in which, when placed over one of the openings of a range, a considerable quantity of garbage can be inodorously dried to a point of combustibility and dropped into the fire. On a larger scale furnaces of different capacities are in common use abroad and to a less extent here which cremate, without offense and at small expense, all private and public refuse, including slaughter-house offal, street sweepings, etc., from small villages up to great cities. One of the first of these, I believe, in this country has been for some time in successful operation on Governor's Island, in New York harbor, where the orderly in

charge informed me that the only element of the garrison jetsam which was passingly malodorous was an occasional burnt offering of old shoes. In some instances the mineral detritus, which forms a large percentage of city refuse, after being thus freed from organic admixture, is converted into a serviceable cement, as is notably the case in Leeds, where the outlay for maintaining the "destructor" is much lessened by the sale of the resulting product. But, aside from any pecuniary return, the economy of this plan of combustion, as compared with other methods of disposal, should commend it to every corporate government. In the notorious Whitechapel district of London, where it formerly cost from half a dollar to a dollar a load to cart away to a distance the household refuse and "dust," all the contents of the East End bins are reduced to a harmless mass of clinker at about one-twelfth of the expense by means of a series of strong draught furnaces, which consume all gases generated during the process. The day is probably not far distant when this method of purification by fire will be adopted for organic waste substances wherever civilized men dwell together. Meanwhile, it is the part of wisdom to prevent their accumulation either above or under ground.

If an apology be due for this brief presentation of rudimentary considerations before an assemblage principally composed of experts, my excuse must be a desire to remind a wider audience, through the publicity given to our proceedings, that the "dry methods," exclusively advocated by a few doctrinaires, are applicable to a very small part of our deleterious wastes; that sewage farming and other schemes for

irrigation and filtration involve separate treatment of precipitated solids; that the best devised system of sewerage still leaves on our hands an enormous residuum which must be otherwise dealt with; and that no one method of refuse-disposal will satisfy the diverse needs of households and communities.—*Journal of American Medical Association.*

THE DIETETIC TREATMENT OF DIGESTIVE DISTURBANCES IN CHILDREN.

Dr. G. Rheiner, in *Wiener klin. Woch.* (*Therap. Monatsh.*), warns above all against beginning the treatment of digestive disturbances in children with drugs; the dietetic management is and will remain the most simple, as well as by far the most rational. A child that manifests moderate gastric disturbances shortly after being weaned, should again be nourished from the breast, in order to quickly relieve it from its digestive difficulties. In cases of gastric dyspepsia occurring in bottle-fed babies, Rheiner warmly recommends washing the stomach, as introduced by Epstein, of Prag. After this procedure the digestive powers of the stomach will probably remain weak for a few hours, and for a short time it will be necessary to replace the water lost by the body by a suitable diet. As such, albumen and water (the white of an egg to a pint of water), barley water, or a very weak infusion of tea, suggest themselves. In intestinal dyspepsia we should carefully guard the stomach against disturbing influences. For this reason anti-diarrheal mixtures should not be at once administered; we should

rather order an exclusive diet of milk and barley gruel to a suitable proportion of water. Here the constipating qualities of barley gruel are valuable as compared with oatmeal gruel; the latter, used in constipated infants, will, as a rule, bring about two or three loose evacuations per day. In closing, the author emphatically remarks that in many cases we can get along altogether without drugs.—*Weekly Medical Review.*

BAD BREATH.

Dr. Frank H. Gardner, in the *Dental Review*, speaks of the causes of bad breath. He concludes: First, decaying particles in the mouth as far back as the pharynx-vault taint the breath, if exhaled, very little if at all. Second, mouth-breathers have a bad breath when the tonsils are enlarged, or when cheesy masses exist in the tonsillary mucous folds. Third, certain gastric derangements taint the breath only when gases are eructated through the mouth. Fourth, the principle cause of bad breath is decomposition in the intestinal canal, the retention of fecal matter in the transverse and descending colon, and the absorption of gasses into the circulation, finally exhaled by the lungs. Fifth, catarrh, nasal, pharyngeal, or bronchial, causes bad breath. Sixth, medicines or aliments which undergo chemical changes below the oesophagus may, by rapid absorption through the stomach walls, or immediately below, give to the breath the characteristic odor. Bad breath is often a source of serious annoyance to the patient, and the fact that it has more than a local cause is too often ignored by the physician, who therefore fails to cure it.—*Buffalo Med. and Surg. Journal.*

Salt Lake Sanitarian

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Devoted to the prevention and cure of diseases and injuries, and the promulgation of the laws of health and life.

M. B. SHIPP, M. D., EDITOR.

SALT LAKE CITY, NOVEMBER, 1890.

EDITORIAL.

ADULTERATION OF FOODS AND DRUGS.

It is a satisfaction to discover in this age of such prevalent adulteration of foods and drugs that at least there is one commodity that is used largely in this business that has no deleterious or unhealthy elements about it, we allude to the cotton seed oil. Olive oil is used by a large majority of the people here in the top of the mountains to a very great extent in the "anointing of their sick" as well as administering it internally. If the best grade of oil is used there is a reasonable prospect that the adulteration is nothing more serious than cotton seed oil. It is more than likely that but little pure olive oil could be obtained in the market. Prof. Bartholow in his lectures on materia medica said in substance, that the cotton seed oil was almost identical with olive oil as to its chemical and therapeutic value.

But as much cannot be said of all the "olive oil" that is sold in this market. The cheaper grade so extensively purchased is adulterated with pernicious oils and fats that render it absolutely unfit for anointing the sick or giving internally. If the people could only realize what the "cheap

stuff" is made of, there would be no danger of inflicting it upon their sick.

The cotton seed oil is also an important factor in the adulteration of some articles that are used as foods, such as lard and lard compounds. We have given a very interesting report of Mr. Wm. G. Tucker on this subject in another part of this journal, that makes a very satisfactory showing in favor of cotton seed oil.

THE CLOTHING OF YOUNG CHILDREN.

Mrs. Waller, in the *Nineteenth Century*, pointed out that it is still too much the custom to leave the upper part of the chest and the lower part of the abdomen exposed, and that hence come pulmonary affections on the one hand and bowel complaints on the other. "It is a fact that not only has the child less power of generating heat than the adult, but that it has also a much larger surface in proportion to the mass of its body, and will consequently be far more susceptible to cold. Cold feet cause a large amount of indigestion, and exposure of the large blood-vessels of the thigh during childhood frequently sows the seed of kidney diseases to develop in after life.—*Lancet*."

THE DEADLY COLD BED.

If trustworthy statistics could be had of the number of persons who die every year, or become permanently diseased from sleeping in damp or cold beds, they would probably be astonishing and appalling. It is a peril that constantly besets traveling men, and if they are wise, they will

invariably insist on having their beds aired and dried, even at the risk of causing much trouble to their landlords. But the peril resides in the home, and the cold, spare room has slain its thousands of hapless guests, and will go on with its slaughter till people learn wisdom. Not only the guest, but the family often suffer the penalty of sleeping in cold rooms, and chilling their bodies, at a time when they need all their bodily heat, by getting between cold sheets. Even in warm, summer weather a cold, damp bed will get in its deadly work. It is a needless peril, and the neglect to provide dry rooms and beds has in it the elements of murder and suicide.

Druggists' Circular.

THE INFLUENCE OF FEMALE EMPLOYMENT UPON MARRIAGES, BIRTHS, AND DEATHS.

So far as English vital statistics throw light upon this subject, they appear to show that in counties where the proportion of women engaged in industrial pursuits is large, the ratio of early marriages, as well as the actual marriage-rate, is high; and that as a natural consequence the birth-rate is also proportionally high. With regard to the death-rate, we have at present no statistics which enable us to judge of the influence of female employment upon the mortality of women, but it is an undoubted fact that the rate of infant mortality is abnormally high in most of those counties in which the ratio of women engaged in industrial occupations is much above the average. The last annual report of the Massachusetts Sta-

tistical Bureau, in dealing with the subject of industrial employment among women, supplies some information relating to its influence on marriage, birth and death-rates, which, if mainly of a negative character, cannot be said to be without interest. After careful examination of the statistics of female employment in fifty cities and towns containing more than sixty-four per cent. of the total population of the State of Massachusetts, the opinion is expressed that employment of women in industry has not decreased the number of marriages or of births, and that neither has it increased the number of deaths. With regard to the proportion of women employed in "gainful occupations," it is stated that whereas in 1875 it was 21.3 per cent. of the whole, it had increased to nearly thirty per cent. in 1885. Stated in another way while the female population had increased 17.7 per cent. in the ten years, the number of employed women had increased 64.6 per cent. English census statistics showed a considerable increase of female employment between 1871—1881, but it is very unlikely that the results of the census next year will show a proportional increase of employment among women approaching that shown by the Massachusetts statistics. The influence of female employment upon marriage and birth rates, and upon mortality, is one which well deserves more careful investigation than it has yet received.

The Lancet, September 20th, 1890.

Young housewife—What miserable little eggs again! You really must tell them, Jane, to let the hens sit on them a little longer.

OBSERVATIONS ON SUNBURN.

Sunburn on the snow has been the subject of an interesting investigation by Dr. Robert L. Bowles. Alpine climbers concede the curious fact that sun on snow burns more quickly than on rocks or in heated valleys at a low elevation, and Dr. Bowles remarks that sunlight reflected from freshly-fallen snow acts much more energetically on the skin than that reflected from older snow. Dr. Bowles, one brilliant day painted his face brown, and ascended the Gorner Grat, where there was much snow. There were about eighty others making the ascent. In the evening all excepting Dr. Bowles were smarting from the effects of sunburn. He points out that in Morocco, and all along the north of Africa, the inhabitants blacken themselves round the eyes to avert ophthalmia from the glare of the hot sand. In Fiji the natives abandon their red and white stripes when they go fishing on the reef in the full glare of the sun, and blacken their faces. In the Sikkim hills, also, the natives blacken themselves round the eyes as a protection from the glare of the sun on newly-fallen snow. Dr. Bowles concludes that heat is not the direct cause of sunburn, but that it is probably caused by the violet or ultra violet rays of light which are reflected from the snow.

COTTON-SEED

"WAS there ever," says *Banker's Monthly*, "such a history as that of the cotton-seed? For seventy years despised as a nuisance, and burned or dumped as garbage, then discovered to be the food for which the soil was hungering, and reluctantly admitted

to the rank of utilities, shortly afterward found to be nutritious food for beast as well as soil, and thereupon treated with something like respect. Once admitted to the circle of farm industries, it was found to hold thirty-five gallons of pure oil to the ton, worth in its crude state \$14 to the ton, or \$40,000,000 for the whole crop of seed. But then a system was devised for refining the oil up to a value of \$1 a gallon, and the frugal Italians placed a cask of it at the root of every olive-tree and then defied the Borean breath of the Alps!"

MALARIOUS AFRICA.

Malarial fever is the one sad certainty which every African traveller must face. For months he may escape, but its finger is upon him, and well for him if he has a friend near when it finally overtakes him. It is preceded for weeks, or even for a month or two, by unaccountable irritability, depression and weariness. This goes on day after day till the crash comes—first cold and pain, then heat and pain, then every kind of pain, and every degree of heat, then delirium, then the life and death struggle. He rises, if he does rise, a shadow, and slowly accumulates strength for the next attack, which he knows too well will not disappoint him. No one has ever yet got to the bottom of African fever. Its geographical distribution still unmapped, but generally it prevails over the whole east and west coasts within the tropical limit, along all the river courses, on the shores of the inland lakes, and in all low-lying and marshy districts. The higher plateaus, presumably, are compara-

tively free from it, but, in order to reach these, malarious districts of greater or smaller area have to be traversed. There the system becomes saturated with fever, which often develops long after the infected region is left behind. The really appalling mortality of Europeans is a fact with which all who have any idea of casting in their lot with Africa should seriously reckon. None but those who have been on the spot, or have followed closely the inner history of African exploration and missionary work, can appreciate the gravity of the situation. The malaria spares no man; the strong fall as the weak; no number of precautions can provide against it; no kind of care can do more than make the attacks less frequent; no prediction can be made beforehand as to which regions are haunted by it and which are safe. It is not the least ghastly feature of this invisible plague that the only known scientific test for it at present is a human life. That test has been applied in the Congo region already with a recklessness which the sober judgment can only characterize as criminal. It is a small matter that men should throw away their lives, in hundreds if need be, for a holy cause; but it is not a small matter that man after man, in long and in fatal succession, should seek to overleap what is plainly a barrier of nature. And science has a duty in pointing out that no devotion or enthusiasm can give any man a charmed life, and that those who work for the highest ends will best attain them in humble obedience to the common laws. Transcendantly, this may be denied; the warning finger may be despised as the hand of the coward and the profane. But the fact remains—the fact

of an awful chain of English graves stretching across Africa.—*Drummond.*

LARD AND LARD COMPOUNDS.

CHEMICAL LABORATORY OF THE
ALBANY MEDICAL COLLEGE,
ALBANY, May 6, 1889.

*Dr. Lewis Balch, Secretary of the
State Board of Health of New
York, Albany:*

DEAR SIR: On the twenty-sixth of April you requested me to make such an examination of "lard and lard compounds, or products into which cottonseed oil enters as a component part," and of "cottonseed oil as sold for edible purposes," as might be possible in the time intervening between that date and this day, and to report to you whether, in my opinion, such "lard, lard compounds or products are healthful or nutritious or are in any degree deleterious or injurious to health" and "whether or not said (cottonseed) oil is nutritious or healthful, or is in any degree deleterious or injurious to health." The time at my disposal, thus allowed me, has not been sufficient to admit of the systematic collection of samples of the articles named, or the elaborate analysis of such samples as have been collected, and this necessary brief report, therefore, deals with the questions involved chiefly in a general manner, and is, in the main, based on information acquired in previous investigations and by former study of the subjects considered.

The main question as I understand it is, whether cottonseed oil properly extracted and refined is a wholesome and nutritious article of food, and

whether it is a proper substance to mingle with lard obtained from the fat of hogs or with other fats in the manufacture of "lard compounds," table oil, and the like, for use as food or in the preparation or manufacture of food articles. There doubtless exists on the part of many people a prejudice that lard should be made from hog fat alone and table or salad-oil from the fruit of the olive-tree solely, but this opinion is in reality based on no good or sufficient reasons. Fats obtained from a variety of animals and a great number of plants, have been used from time immemorial in the preparation of food, and it is unreasonable to suppose that those particular fats and oils which we, in this country, or in this part of the country, have been accustomed to use, are the only suitable ones to employ. All over the world vegetable oils are obtained by the expression of seeds or fruits of plants, and used as food. From the cocoanut, Brazilian nut, walnut, almond, and a wide variety of other vegetable products, oils are extracted and employed in the preparation of food. In speaking of the vegetable oils, Dr. Edward Smith, in his well-known work on "Foods," places cottonseed oil at the head of the list, and says: "There can be no doubt that we have in this product of seeds and plants, which seem otherwise to be useless, a great storehouse of most valuable nutritive material; and if we know but little of them in this climate it is because we have the olive oil at hand and are bountifully supplied with many kinds of animal fats. It is, however, probable that the cheapness of some of these vegetable oils, in addition to the delicacy of their flavor, will, ere long, force

themselves into notice and obtain a place among our foods." This was written in 1873, when the manufacture of cottonseed oil was still in its infancy. Professor Wiley, chemist to the United States Department of Agriculture, in Bulletin No. 13, on "Foods and Food Adulterants," quotes from Allen's well known and standard work on "Commercial Organic Analysis," as follows: "Refined cottonseed oil is of a straw or golden yellow color, or, occasionally, nearly colorless. The density ranges from .922 to .96, and the solidifying point from one to ten degrees centigrade. Refined cottonseed oil is usually very free from acid, and when properly prepared is of pleasant taste, and admirably adapted for edible and culinary purposes, for which it is now extensively employed both with and without its nature being acknowledged." As regards the manufacture and refining of cottonseed oil, it may be remarked that the methods employed are not materially different from the processes made use of in the preparation of olive oil. The cottonseed oil has for years been exported to Italy and France, in which countries it is largely employed for mixing with olive oil, is a well-known fact. Speaking of cottonseed oil, Dunham J. Crain, United States Consul at Milan, reported as follows under date of November 10th, 1883: "The seed oil industry is assuming considerable proportions. Several kinds of this oil were exhibited at the Milan exhibition in 1881, and classed among alimentary oils. There were some beautiful specimens of sesame oil exhibited. . . . The importation of cottonseed oil was arrested in 1882, since which the demand for oleaginous seeds has increased. It is therefore urged that a

duty should be imposed on all imports of seeds and seed oil, if it is to be continued on cottonseed oil. It is claimed that the duty on cottonseed oil has served no good purpose; that the mixing of cotton oil with olive oil was not prejudicial to health, and that the mixture is now made with oils from flax and nuts, and that the competition formerly coming from cotton-seed oil has been replaced by oils of other seeds and by nut oils.

. . . It is felt that frauds will diminish, and the public good be promoted, when prejudices against good seed oils disappear and they are sold under their true names." (United States Consular Reports, XII., 587.)

I am clearly of the opinion that cottonseed oil, whether used alone or commingled with other oils or fats, is a perfectly wholesome and nutritious food, and as easily digested and assimilated as any of the commonly employed fats. In support of this view the opinion of numberless writers upon the subject and of experts in chemistry and physiology might be adduced, but I shall content myself with citing two or three. Battershall in his treatise on "Food Adulteration" remarks: "As a result of the publicity lately given to the subject of food adulteration, a popular impression has been produced that any substance employed as an adulterant of or a substitute for another, as to be avoided *per se*. Perhaps the common belief that for all purposes cottonseed oil is inferior to olive oil and oleomargarine to butter, is the most striking illustration of this tendency. Now, as a matter of fact, pure cottonseed oil, as at present found on the market, is less liable to become rancid than the product of the olive, and, for many culinary

uses, it is at least quite as serviceable.

* * * The sale of these products, *under their true name*, should not only be allowed, but under some circumstances, even encouraged."

Professor Wiley stated before the United States House Committee on Agriculture, at the hearing on the compound lard bill in 1888, in reply to the question whether from his knowledge of chemistry and of medicine there is any property in cottonseed oil injurious to health, that there was not so far as he knew. In reply to the question, "Does that statement also apply to beef stearine used in connection with cottonseed oil in the manufacture of refined lard?" he replied, "Yes, sir; so far as I know there is nothing in it injurious to health." Concerning its digestibility and the ease with which it is assimilated, he instanced a case in which a pint had been given as a laxative and had undergone perfect digestion, showing in his opinion, "that it was very easily acted upon by the intestinal juices" and "very easily assimilated," and he added that "it seems to act on the digestive organs like olive oil precisely." In response to the question, "Are the nutritive qualities of cottonseed oil equal to the nutritive qualities of pure lard?" he replied, "I should say that there would be little difference as far as nutritive properties are concerned." Professor Wiley analyzed a large number of samples of so-called refined lards compounded chiefly of beef stearine, cottonseed oil, and hog fat, and in response to the question, "Have you any belief that any of these articles or specimens . . . when used as foods are hurtful or unhealthful to the human system?" replied, "I have no reason to believe

any of them are, any of the ingredients in the lards." And again, "As far as medical and chemical knowledge extends, these substances are not injurious to health." In reply to the question, "What would you say of cottonseed oil when used alone as an article of food?" he answered, "I should say that it was perfectly wholesome," and he gave it as his belief that it was as wholesome as olive oil, or hog lard, or beef fat. Professor S. P. Sharpless, State Assayer for Massachusetts, and a chemist who has given much time to the study of food adulteration, stated during the course of the same investigation, that he knew of no property injurious to health in cottonseed oil or the refined lards which he had examined. Professor R. Ogden Doremus, of New York City, states that refined lard made from steam lard, beef stearine, and cottonseed oil is "pure and wholesome," and that in his opinion, "cottonseed oil is a wholesome article of diet," and Professor L. M. Norton, of the Massachusetts Institute of Technology, states that the compound lard made by a wellknown firm is "a perfectly good food material," and "is unobjectionable in every respect, and does not contain anything which can be injurious to health."

These are the opinions which seem to be almost universally held by those who have investigated this subject from a scientific standpoint. So far as I know there is no evidence worthy of the name which even remotely tends to show that cottonseed oil is not a wholesome and nutritious food. It has, as a matter of fact, been used for years, both surreptitiously mixed with other oils and fats or openly employed on its merits as a palatable and useful

food. Throughout the cotton growing States it has been, for a long time, very largely used, and the medical faculty of the Arkansas University state that it is to be preferred to other fats in many respects, "agreeing with the most delicate stomachs whether used in baking or frying," and that "not one instance has ever been given of health being in any manner impaired by the use, however free, of cottonseed oil in food." They state that "thousands of hands employed in the cottonseed oil mills are in the habit of making their dinners on the crude oil, by dipping their bread in it, and some of them actually drink it, and yet from this free use of it nothing has ever resulted but the best of health."

Such testimony as that given above is not easily overthrown. Writers of eminence in our scientific, medical and agricultural journals have borne similar testimony, and large numbers of people in our midst today use, by preference, in their households a cottonseed oil lard in place of one made from the fat of the hog. In my own family I have employed such a lard with perfect satisfaction, and am convinced by actual trial that it is palatable, readily digestible, and a wholesome, nutritious article. During the last few years I have chemically examined a considerable number of compounded lards, sold as lard and under various trade names, containing cottonseed oil, sometimes without a trace of hog fat, and I have also examined various qualities and grades of cottonseed oil and of olive oil containing it, some of these examinations having been made within the last week, and I have discovered in these lard compounds and oils no substance

injurious to health or in any way deleterious, and I am decidedly of the opinion that such lard compounds and cottonseed oil products as I have examined, or of which I have knowledge, are wholesome and nutritious articles of food.

Yours respectfully,

WILLIS G. TUCKER,

Analyst State Board of Health.

LUMINOUS PAINT.

Until recently the commercial manufacture of luminous paint has been confined to England, where a single factory turned out a small supply at a price of about \$3 a pound. This enormous cost seems to have prevented the use of the paint except as a curiosity. During the past year, however, a firm in Austria has found means to produce it and place it on the market at fifty cents a pound, or about one sixth of the English price. Even at fifty cents a pound, a substance composed of roasted oyster shells and sulphur might be manufactured at a good profit, but at that price it is likely to come into extensive use. Wherever it can absorb light during the day it will give it forth at night, and it is said that a railway car in England, which has had its ceiling painted with it, was so brilliantly illuminated that one could see to read a newspaper in it during the darkest night, without other light. With all due allowance for the enthusiasm of early experimenters, there is no doubt that cars with ceilings so painted would be pleasant to ride in whether one could really see to read in them at night or not; and for making key-holes, stairways and signboards lu-

minous, the paint would be invaluable. Its application to stairways is a particularly obvious one, and the Austrian manufactures furnish a kind of wall paper on which the paint can be used to better advantage than on the bare plastering. The paper, which is of a leathery texture, is first treated with lime water, and then primed with a composition, furnished by the same firm. After this is dry, two thin coats of the luminous paint are applied, and the whole may then be varnished.

American Gas-Light Journal.

HEALTH COMMANDMENTS.

We copy the following from the *Dixie Doctor*. It will strike the reader as being perhaps a little irreverent, and also as being rather more apodictic than exact in the field covered. For we are told not to eat pie, while nothing is said against whisky. A large class of excellent people think that whiskey is less salutary than pie, but perhaps these people do not live in Dixie. "1. Thou shalt have no other food than at meal-time. 2. Thou shalt not make unto thee any pies, or put into pastry the likeness of anything that is in the heavens above or in the waters under the earth. Thou shalt not fall to eating it or trying to digest it. For the dyspepsia will be visited upon the children to the third and fourth generation of them that eat pie, and long life and vigor upon those that live prudently and keep the laws of health. 3. Remember thy bread to bake it well, for he will not be kept sound that eateth his bread as dough. 4. Thou shalt not indulge sorrow or borrow anxiety in vain. 5. Six days shalt thou wash and keep thyself clean,

and the seventh thou shalt take a great bath, thou and thy son, and thy maid-servant, and the stranger that is within thy gates. For in six days man sweats and gathers filth and bacteria enough for disease; wherefore the Lord has blessed the bath-tub and hallowed it. 6. Thou shalt not smoke tobacco, for it is an abomination in the sight of all thoughtful men, and a mortal sin against thy Creator, who hast given thee a sound body and mind to be well preserved against such narcotic drugs. Remember thy sitting-room and bed-chamber to keep them ventilated, that thy days may be long in the land which the Lord thy God giveth thee. 7. Thou shalt not eat hot biscuits. 8. Thou shalt not eat thy meat fried. 9. Thou shalt not swallow thy food unchewed or highly spiced, or just before hard work or just after it. 10. Thou shalt not keep late hours in thy neighbor's house, nor with thy neighbor's wife, nor his man-servant, nor his cards, nor his glass, nor anything that is thy neighbor's.

POISON-IVY AND POISON-SUMACH.

BY WILLIAM HAMILTON GIBSON.

There need be no trouble in identifying the poison-ivy in any of its forms. The hairy trunk will often serve us, but there are two other features which are of much more value. First let us remember that *its leaves are always grouped in threes* whatever the outlines of their more or less wavy margins. In some sections the plant is always called the "three-leaved ivy." And this naturally leads me to a consideration of that other

vine with similar habits which is commonly known in the same localities as the "*five-leaved ivy*," and a leaf of which I have here pictured under the title of "an innocent victim." This is a leaf of the *Ampelopsis quinquefolia* (*quinquefolia*—five leaves,) also called Virginia creeper and woodbine. Look at the leaf, and fix its form in your mind. This is one of our most beautiful native climbers. It is allied to the grape-vine, is perfectly harmless, and is the one plant that has to suffer from suspicion, being often destroyed under the impression that it is the "poison-ivy."

The writer knew of a person who possessed a beautiful home upon the Hudson, and whose deficiency in knowing of this one little page of botany cost him a severe loss. His children were suddenly prostrated with ivy-poisoning, and one of his "ninth hour" neighbors came in to offer him some learned advice. Something in this style:

"Well, Squire, it's fetched 'em at last. I've been tellin' Betsy all along that the pesky stuff would ketch ye arter awhile. Well, thar, goodness and truth! Time an' time agin, when I've been goin' by the gate an' seen them air children playin' in the summer-house yender, it's made me feel 'tarnal ticklish, an' I've sed time and again, and tole Betsy so tew, that I'd bet my best gobbler they'd be broke out afore a week, an' now they've done it; an' if you take my advice, you'll cut the pesky weed down an' burn it before the hull on ye is ketched. You needn't look so surprised, Squire. What I'm tellin' ye is fer yure own good. That air weed is pizen-shumake, an' it'll nigh on to kill some folks."

Such advice coming from a practical farmer in whom the "Squire" had perfect confidence, was immediately acted upon. The vines which had embowered the beautiful arbor for a generation were sawed off at the ground. And to think that a peep into the botany might have saved them!

Four things need to be committed to memory to insure safety against our poison-sumachs:

First. The three-leaved ivy is dangerous.

Second. The five-leaved is harmless.

Third. The poison-sumachs have white berries.

Fourth. No red-berried sumach is poisonous.

Both the poison-ivy and poison-sumach, though unlike in appearance of foliage, have similar *whit berries* growing in small slender clusters from the axils of the leaves. In all other sumachs the berries are red and in close bunches at the ends of the branches, and far from being dangerous, yield a frosty-looking acid which is most agreeable to the taste, and wholesome withal. With these simple precepts fixed in the mind, no one need fear the dangers of the thickets. Nor need any one repeat the hazardous exploit of two young ladies whom I know, one of whom, as a committee on church decoration in a country town, brought her arms full of the scarlet autumn branches of the venomous sumach; while the other once sent the writer a really beautiful group of carefully arranged rare grasses and mosses generously decked with the white berries of the poison-ivy. Both of these rash maidens, I believe, paid the severe penalty of their botanical innocence.—*Harper's Young People.*

TURPENTINE FORESTS.

Turpentine forests are divided into "crops" of from eight to ten thousand trees. Two men can box a crop in a week or ten days. The axe used has a long, narrow bit, and the hole cut—which must be on the sunny side of the tree, and about two feet from the ground—is some 8 or 10 inches across the face, 4 deep, and shaped somewhat like the buckets of a grain elevator. Each contains from a pint to a quart of turpentine a week from the cutting, and they are then "cornered," which means that the corners are chipped to expose more fresh surface to the sun. Every week after this they are "chipped" or "hacked," that is, strips of bark some 3 inches wide are removed, so that the bared surfaces converge toward the box like spokes toward a hub, and lead the gum down into it. These naked strips are afterward continued up the tree with a spund-like tool having a handle some 10 or 12 feet long, to the height of 20 feet, which is as high as trees can be worked. This process is called "pulling."

Meantime the "dippers" have gone around visiting each tree, about once a week, to dip the turpentine into buckets, and empty it into barrels placed here and there. One negro can perform one of these various processes for a crop in a week, so that as many men are required to work a crop as there are distinct processes going on. A competent white superintendent "rides the wood" to see that every one does his work properly. A store and distillery at the nearest convenient point on the railway complete the outfit.

After a forest has been worked over on one side, it is "back boxed"—that

is, the same operations are carried on upon the other side of the trees. As much turpentine is often secured at this second working as at the first, but it is not of so good a quality. After this the trees are of no further use except for lumber or shingles, and when a forest of the long leaf species is thus cut off it is followed by the short leaf, which does not yield turpentine.

• THE PROPER LENGTH.

A lawyer is presumed to be always able to suggest a difficulty, no matter how self-evident the case may seem; but the truly great lawyer knows how to state a point so that even a brother lawyer cannot start an objection. Stephen A. Douglas and Mr. Lovejoy were gossiping together when Abraham Lincoln came in. The two men immediately turned their conversation upon the proper length of a man's legs.

"Now," said Lovejoy, "Abe's legs are altogether too long, and yours, Douglas, I think are a little too short. Let's ask Abe what he thinks about it."

The conversation had been carried on with a view to Lincoln's overhearing it, and they closed it by saying:

"Abe, what do you think about it?"

Mr. Lincoln had a far-away look as he sat with one leg twisted around the other, but he responded to the question, "Think of what?"

"Well, we're talking about the proper length of a man's leg. We think that yours are too long and Douglas' too short, and we'd like to know what you think is the proper length."

"Well," said Mr. Lincoln, "that's a matter that I've never given any thought to, so, of course, I may be

mistaken, but my first impression is that a man's legs ought to be long enough to reach from his body to the ground."

◆
OIL FROM CORN is one of the latest products which modern science every now and then throws upon the world. The maize, which is now grown in the United States at the rate of some 2,000,000,000 bushels per year, has been experimented with and found capable of yielding three and one-eighth per cent. of its weight in oil, the germ of kernel being the part from which the oil is extracted. The new material is of a pale yellow color, somewhat thicker than either olive or cotton-seed oil, and does not seem to be readily available as a substitute for them, but it is well adapted for lubricating purposes, and may be used as a salad dressing, while it seems to be adaptable for linaments.

◆
THE "Laughing Plant" grows in Arabia, and has been given its name from the effect produced by eating its seeds. The plant is of moderate size, with bright yellow flowers and soft, velvety seed pods, each of which contains two or three seeds resembling small black beans. The natives of the district where the plant grows dry these seeds and reduce them to powder. A small dose of this powder has similar effects to those arising from the inhalation of laughing gas. It causes the most sober person to dance, shout, and laugh with the boisterous excitement of a madman, and to rush about cutting the most ridiculous capers for about an hour. At the expiration of this time exhaustion sets in and the excited person falls asleep, to awake after several hours with no recollection of his antics.

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THE PREVENTIVE SIDE OF MEDICINE.*

BY F. BAGSHAW, M. D.

In treating of the great question of sanitation, we may consider health either as it affects the individual, or society as a whole. The former more particularly concerns the medical man, the latter the public guardians of health, whether medical or non-medical. It is of the first—viz., of personal family health, that I propose specially, though not exclusively, to speak in the present paper. It is clear that the improved health of the units of the Society must have a marked effect on the whole sum, but it is also clear that unless the whole sum be properly controlled and guided, the units—that is, the individuals—must suffer, despite the utmost care these may exercise. For an individual must first put himself, his family, and his dwelling in the fittest possible condition to defy disease, and yet suffer from the careless or improper sanitary supervision of the town or district in which he lives. Two measures are necessary that the health of the country may be duly provided for:

1. That the individual citizen should adopt every known means to insure his own health and the health of his family; 2. That the ruling authorities should make use of every means the science affords to prevent the outbreak

of sickness. Could these measures be effected, Disease—that hydra whose poison tooth heads have been multiplying in all directions since the birth of civilization—would have found its Hercules to fire the decapitated stumps of evil, and at last reduce the monster to dimensions as small as contained him in early times. For as the growth of society, so has been the growth of disease; and meanwhile medicine slept, only waking up at such times as the new poison heads came forth, and seldom, or never, using the sword to cut off the deadly offspring. Now it has awakened to its most important duty—prevention. Already sickness is reduced. Some of its worst forms are already almost extinct, and the conflict with others is seen to be hopeful. . . . With man's inborn tendency to gregariousness, resulting in the growth of village, town and great city existence, began the history of his health troubles, and the necessity, first for the curative medicine, which was doubtless soon recognized; far more of preventive medicine, which has only been fully acknowledged at this late stage of the world's course, and when misery and suffering have taught their lesson. To take the death-rate of London, it was, in the seventeenth century, 80 per 1000; 50 in the eighteenth, and 24 in the present day. Our own town is, at the present time, 13 per 1000. The improvements already achieved are, however, small indeed compared to what might be done

*Abstract of paper read before the Health Congress of Hastings, England, April 15th, 1889.

if a thorough system of sanitation were enforced by government, and carried out rigidly, without favor to individuals and under really efficient officers. Whether this ever will be done in a country which resists the wisest measures for its own health and safety on the shallow ground of sentiment, or the equally shallow one of liberty of the subject, is rather doubtful. The individual health branch of our subject more especially concerns the ordinary practitioner, and how far disease can be prevented by attention to individual health and the healthy surroundings of the individual is, or should be, the first care of every physician. Too much stress cannot be laid on the proper training of man for the race of life, and the problem involves two great conditions: care for the individual himself, and for the house he lives in; neither is sufficient alone; together they are complete, always supposing that the condition of the surrounding district does not interfere to spoil the work. First, then, as to the individual himself. The necessities for health may roughly be summed up in diet, clothing, bathing, and exercise, voluntary abstinence from vicious causes of harm to health being, of course, understood. Simple and regular diet cannot be too strongly preached. Rich food and irregular meals, together with too little bodily and too much brain exercise, have produced that potent disorder called nervous dyspepsia. Fortunately we in England are an active race, and love to spend our energies in sport, and the increasing tendency to athletic pursuits helps to counteract that toward nervous and digestive disorders, themselves the result of sedentary habits. The athletic tendency of the race,

though it may be harmful to certain individuals is of undoubted national good, both morally and physically. Clothing in this climate resolves itself into the choice of wool, for woollen underclothing is most important. There can be no question that the wearing of pure woollen clothes in place of linen is the best of all preservatives from cold, with all its harmful and fatal consequences. Bathing, again, is a valuable aid to health. What is called the morning tub—cold or tepid, according to season, and individual power of reaction—is a most useful tonic. With proper attention to diet, clothing, bathing and exercise, a man should win half the battle for health. But then comes the other half of the problem—the house he lives in, and its surroundings. These mainly comprise soil, air, water, ventilation and drainage. The first three of these are not always in our power to choose. Every one cannot live in Hastings or Torquay, or Tunbridge Wells, or Malvern, on the hill in preference to the plain, or on the gravel soil instead of the clay one. Ventilation of the rooms we live in is all important to health, but drainage, the most important of all, should be our first care, both before choosing a house and settling in it. An efficient system of drain-pipes and drain ventilation, with periodic inspection by a sanitary expert, would insure the prevention of much disease. And here we come to that great question of the day, which has already made its march on our generation, and which is making that march deeper and wider every year, the best and brightest side of the science of medicine, the prevention of disease.

After speaking of the extinction of

the deadly jail-fever and the stopping of typhoid-fever in various places by a good system of drainage, the reader went on to say: My friend, Mr. Gabb, bears similar testimony with regard to Hastings. He remarks that in 1857 we had a very dry spring and summer, and then occurred a most serious epidemic of typhoid. This was in the days of cesspools, before the main drainage scheme had been carried out, or an efficient supply of water provided. In some streets of the Old Town not many houses escaped without one or more of their number being stricken. "I had," he says, "on my list at once thirty-seven cases in various stages of the complaint. Soon after the drainage was carried out, and, I believe, completed in the following year, when a wonderful improvement took place in the sanitary condition of the borough, and typhoid greatly diminished. Some ten years later further improvements were made in the ventilation of the drains. Since then typhoid has almost disappeared, if exception be made of a local outbreak some ten years back, from a cause that was at once appreciated and removed. I say almost disappeared, because a case is occasionally imported into the town. The well-known outbreaks of this disease at Guildford in 1867, and at Lewes in 1874, were all traceable to the leakage of sewage into the water supply. The advantages to be derived from a careful system of prevention in scarlet-fever have been well known in our town. It is now many years—in 1871—since efforts were made in this borough toward the systematic isolation of cases of scarlatina, and they were at first carried on by private enterprise. An enthusiastic lady sani-

tarian, Mrs. Johnstone, seeing that the use of disinfectants and the isolation of patients with their attendants were potent means to arrest the spread of this disease, made it her business to search out cases of scarlatina whenever she could hear of them. She would call on the householders, whether rich or poor, and explain to them in great detail her views. She would exhort them to isolate the sick member completely, explain the methods of disinfecting all secretion, of putting up the carbolized sheet before the door, and point out the importance of cutting off all communication between the sick person and his attendant from the rest of the house. She made provisions for the disinfection of linen before going to the laundress, and recommended where it could be sent with safety. She secured the removal of the infected or doubtful children from the day schools. She persuaded the needlewomen and tailors inhabiting infected houses to desist from taking in work, and these measures she took at the expense of offering subsidies to parents or workers who would thus be temporarily thrown out of employ. Finding the impossibility of isolating by these means alone, with the help of a number of ladies and gentlemen whom she interested in the work, she took rooms to serve the purpose of a temporary infectious hospital. By degree she thus formed the Sanitary Aid Association, consisting of a number of annual subscribers, and a large and influential committee of clergymen and others, with herself as managress, and with nurses as assistants. The latter she thoroughly indoctrinated with her practical views. An important work was thus inaugurated in the borough,

which, in spite of much opposition and conflict, was destined to bear important fruit. An Act of Parliament exists, authorizing the sanitary authorities to provide hospital accommodation for infectious disease. It was not long before the Town Council found it expedient to start their own hospital for isolation, and this part of the work soon passed out of the hands of the Sanitary Aid Association. But work still remained for the volunteers. Their nurses still continued to visit infected houses, and to advise and help quietly and practically, when the visit of the Inspector of Nuisances would have been regarded as an intrusion, and thus, by their quiet and ready help, formed a valuable auxiliary in carrying out the instructions of the doctor in charge of the case. Moreover, the funds of the Association were available for tiding over a crisis in the family, where without them it would have been impossible to prevent the bread-winners from carrying on their employments at the risk of spreading infection far and wide. One exceptional immunity from serious outbreaks of scarlatina has doubtless been, in no small degree, the fruit of this organization. The Sanitary Aid Association has been the parent of many similar institutions in different parts of the kingdom, of which I may quote Westminster as an example. A senior practitioner in this town tells me that the scarlet-fever of the present day is a vastly different disease in its severity to what he was accustomed to see in his early days. The cases which arise in the town are mild, the disease being most often imported from a distance, and even these are generally not of a malignant character. This altered type is largely due to the im-

proved drainage. Outside the fevers there are other ailments more slowly, but not less surely affecting health and life, some of which are easy, some not so easy of prevention.

* * * * *

Family or hereditary predisposition holds a leading place in the induction of phthisis, but obedience to the laws of health might do much to disinherit it in the course of generations. Yet it must be allowed that, in proportion as the knowledge of the more direct causes, previously overlooked, becomes more extended, so does the estimation of heredity shrink in importance; for, in proportion as damp and dust, and unwholesome emanation, and insufficient or improper food, are recognized among the active general causes, and as local injuries, offering impediment to the action of the lungs, such as pleurisy, inflammation, and tight lacing and the like, take their proper place as local causes, so does hereditary taint sink in the reputed scale of causation. The Doctors Williams point out that, while forty-eight per cent. has been shown to be the number of hospital cases which give a history of heredity among the lower classes, and while the records of Brompton Hospital give a percentage of twenty-five, yet the records of their practice give a percentage of only twelve. They say the only explanation we can offer of the discrepancy is the difference in the classes of the patients on which our statistics are based from those on which other authorities are based. They add it is likely that our small percentage in a class from which its wealth is able to banish many of its most fertile causes of phthisis, gives a most just estimate of the influence that hereditary predisposition, unaided

by poverty and exposure to divers pernicious influences, exercises in the causation of phthisis. Niemeyer and other authors, both English and German, deny that consumption is hereditary as a specific contagion, while they allow that the tendency is inherited. Whether this be so or not, at least we know that weakening constitutional diseases in the parent, such as gout or asthma, or excessive indulgence in alcohol or the like, may render the next and succeeding generations prone to the disease.

Slowly and laboriously have we been arriving at the conclusion that uncleanliness, overcrowding, foul devitalized air, damp and dust, have been active promoters of disease. Take, for instance, the strange mortality in our army years ago from pulmonary affections; while deaths from consumption of the same age in civil life were 6.3 per 1000, they amounted in the cavalry to 7.3, in the infantry of the Line to 10.2, and in the picked men of the Guards to 13.8. Stranger still, it was found that the troops huddled before Sebastopol in 1856 suffered a far lower mortality than those barracked at home. The pith of these startling figures lies in the fact that after the system was changed, with free ventilation established in the barracks, and sufficient breathing space provided for each individual, the tables were turned, and our soldiers no longer appear to disadvantage, but the reverse, in comparison to civilians. Again, both Dr. Bowditch and Dr. Buchanan showed independently the extreme importance of dampness of the soil as the cause of consumption. The former says: "A resident on or near a damp soil, whether that dampness is inherent in the soil itself, or caused

by percolation from adjacent ponds, from marshes and spongy soils, is one of the primal causes of consumption in Massachusetts, probably in New England, and possibly in other portions of the globe." Again it was shown that the death-rate from consumption in the city of Salisbury was reduced by nearly one-half, in consequence of its subsoil drainage. Injurious dusts and atmospheres incident but not necessary to certain manufactures can be prevented, and legislation has done something, but should do more, to make such prevention absolute. Past statistics, and even some present ones, tell a terrible tale of shortened lives and ruined health under these conditions. Only recently, in some lectures by Dr. Arledge (reported in the medical journals), the fatal tendency to pulmonary disease is pointed out among workers on our silk, cotton, woolen, flax, and similar manufactures, as well as in other fields of labor, such as wood and ivory-turning, bronze-casting, and so forth. In addition to the injurious effects of the dust or filaments, the air of the work-rooms is often kept at a high temperature, and sometimes, notably in the cotton sizing sheds, is damp, also producing languor, loss of appetite, dyspepsia, and anæmia. Out of sixteen hundred and forty-two out-patients treated at Macclesfield Infirmary, of whom nine hundred and twenty-two were engaged in the silk trade, respiratory diseases constitute about one-fourth of the complaints treated. The inferior cotton, Dr. Arledge points out, requires most sizing, and to secure the requisite heat or moisture no external air is admitted, while jets of steam are let into the sheds, saturating walls, ceiling and the clothes of the

work-people. No wonder, he adds, that the operatives complain of debility, sweating prostration, fainting and impaired digestion. And may we add that it is no wonder he invites legislative interference to prevent the carelessness of manufacturers, thus sacrificing the artisans? In dressing the linen web a similar high temperature prevails, and this process is so unhealthful that only a few adult men free from chest disease are chosen, yet the average duration of employment, even of these, is only sixteen years. What prevention can do is shown in the case of Leek, where the mortality for consumption, as in other silk towns, was notoriously high, but is now happily as strikingly reduced since proper ventilation was established in the mills, unhealthful mills rebuilt and the artisans provided with improved, well-drained dwellings. During the condition of lowered vitality, from whatever cause, the body becomes specially vulnerable to attack. The soil has lost its richness, and with it the power to grow good seed, but weeds grow apace. The germs of tubercle must be widely spread among us, but for them to fructify they must have an impoverished soil, and be sown with a sufficiently lavish hand, otherwise they will fall harmless and sterile on their bed. In conclusion, he says: What is to be hoped for, and what can be done, is that with our accumulated knowledge and experience, and with the weapons science has placed in our hands, we may at least keep the enemy, Disease, at a respectful distance, by making our individual lives and homes as healthful as we have now the means of doing, and by such wise legislative provisions for the great sum of life, the good and

evil of which must affect the individual units, as shall serve to secure the health, and so the happiness of mankind.

The Sanitarian.

THE IDEAL IN MEDICINE.

The difference between an ideal and its realization confronts us in every relation of life, but is most apparent in those callings in which a high standard of ideals is a necessary postulate of the successful prosecution of an otherwise not too pleasant or too profitable series of duties. Nowhere is such a high ideal standard more necessary than in the practice of medicine. Dealing as it does with the deformities, the diseases, the vices of mankind, it throws into the background the æsthetic and pleasing side of life.

Of necessity, therefore, its ideal aims are dwelt upon and emphasized by the teachers who instruct the future practitioner in his work. The humanitarian nature of his work, the delights of professional intercourse, the satisfaction of useful work, these, and not mere pecuniary success, are the rewards that are held before the students' eyes.

He enters upon his professional life imbued with these ideals and finds, unfortunately but too often, that each succeeding year lessens their importance in his eyes. Gradually he begins to feel the business of medicine overshadowing its scientific practice. He finds that to be successful in the ordinary sense of the word he must be not merely an acute observer, a sound reasoner, and a deft operator; but besides, and perhaps more than all these, he must be a business man, a diplomatist, and unfortunately too often a

schemer. As he looks around him he sees success, the reward frequently of merit, but often, also, of audacity and accident.

Under such circumstances the practitioner of medicine is too liable to fall into the net of those who unfortunately practise the healing art for the same ends and in a similar spirit as they would pursue a commercial enterprise. The ideals have vanished and the realities are nakeder and uglier in consequence.

Of almost all callings medicine has the least chance to survive such an abasement; and hence it is that the wise amongst us strive to foster and nourish everything that will counteract it. They encourage medical fellowship, societies, reunions, where, doctors learning to know each other better and esteem each other more, the effect of the competitive strife for patients and dollars may be ameliorated. They encourage a high standard of medical ethics and rightly frown upon those who contravene its first principles. For the healing of the sick is not and never can be a business.

In the ideals then and in their realization, however imperfect, does the practitioner find the real reward for his work. Nevertheless, and strange to say, the general opinion of the laity is that medicine is an excellent money-making business; that its work is light and its reward great. Judging merely by externals this would seem to be so, for the public do not understand that an external show of prosperity is necessary for the smallest amount of success.

Hence it is that students throng our schools, and the number of physicians to inhabitants exceeds that in any other country in the world; thus increasing

the competition and necessarily lowering the ideals.

That this is an injury to the profession is apparent, nor is it less so to the public itself. The more their doctor is forced to be a man of business the less will he be a true physician. We need less medical students and less doctors; so that the greater material ease of the doctor's life may leave him leisure and taste for the prosecution of those works and studies by which the health and longevity of mankind are promoted. — *The International Journal of Surgery*.

A REFLECTION UPON DOCTORS, MORTALITY AND ATHLETICS.

Our esteemed and reflective contemporary, *Life*, has been engaged of late in certain contemplations upon mortality and death.

In re the subject of sickness, it wonders why Mr. Richard Croker, whom the doctors pronounced incurable, incontinently got well; and it deduces some conclusions unfavorable to the certainties of medical science. Perhaps its reflections are not altogether without justice, although medical men are, we think, particularly careful in giving positive unfavorable prognoses. When given, they are generally correct, for most fatal and incurable diseases are readily recognized. We must believe that in the case of the eminent statesman above referred to there is a mistake. Either the doctors did not in fact say he was incurable, or else his time will come later. We trust Mr. Croker will not forget what he owes to the science of prognostics and the stability of professional reputation.

But *Life* is also puzzled over the careers of the late Cardinal Newman and John Boyle O'Reilly. The former, a frail, slight man of infirm constitution, but despite this he lived to a very advanced age; the latter was a man of splendid physique, who kept his system in training by physical exercise, athletic sports, and followed all the suggestions of modern physical culture. Yet he died in the prime of life. Shall we not, then, live quiet, ascetic lives, ignoring the body and cultivating the spirit? or shall we cultivate both body and mind? The latter course is the one so much commended to-day; yet it is not a sure passport to longevity, as many cases prove. In fact, the brain-worker is better if he lives a regular, temperate life, and pays no attention to the development of his muscles. A little walk, some fresh air, and sound sleep are all he needs. Some people, to be sure, can be athletes and do brain work also, but it is not the rule. A sound mind should have a sound body, but it does not need herculean muscles. The best athletic work is done by growing boys and adolescents, who have an extra supply of vitality. When they have matured, and undertaken the responsible work of life, they speedily drop out of the championships. And the lesson we would draw from the opposite cases brought up by *Life* is, that athletics are not needed by brain-workers, and will, if carried to excess, shorten life rather than lengthen it.—*Medical Record*.

Health is too valuable a gift to be treated lightly. The person who disregards his physical powers sins against his Creator.

THE NEW HYPNOTISM—ITS METHODS AND ITS POSSIBILITIES.

(A Clinical Lecture Delivered in New York Post Graduate Medical School, April 25, by PROF. D. L. DANA, M. D.)

GENTLEMEN: I am especially anxious to bring the subject of hypnotism before you today for two reasons: 1. Because it has recently been brought forward in a new manner by certain French physicians at Nancy—Drs. Liebeault and Bernheim, and at Zurich by Prof. Forel. 2. Because hypnotism in a modified form has been recently applied, practically, very extensively in this country by persons who claim to be "Christian Scientists," "Mind Curers," etc.

My object will be today to show some of the phenomena of hypnotism in the subject before me, and then to show that, by adopting the methods of suggestive medicine as taught by Bernheim and his school, we can accomplish in a safe and rational way all that is done by mind-curers and other like classes of charlatans.

HISTORICAL.

Hypnotism in medicine has been known for over a century. Its methods have been applied, however, mostly by quacks, and no very careful investigation of its methods or results has been made until of late years. * * * The study of hypnotism or suggestive medicine and its applications has received its greatest practical impetus through the work of Liebeault and Bernheim at Nancy, and from Forel at Zurich. This work has been supplemented, also, by that of Fontan and Segard, of Toulon, who have written a manual on the subject which is called "Elements of Suggestive

Medicine," a work not equal in originality and value, however, to one on the same subject by Bernheim.

The differences in the schools of Paris and the schools of Nancy and Zurich are very decided. The methods of hypnotizing people are different, their theories are different, and their practical applications of the process are different.

METHODS OF HYPNOTIZING.

Charcot adopts the old methods of hypnotizing—that of braid—in which the person fixes the eyes upon a bright object until he passes off into a hypnotic condition. Bernheim and his pupils adopted what is known as the "suggestive method." The patient is placed in a chair in front of the operator. The operator then talks to the subject in a firm and confident voice, assuring them that they will go to sleep in a short time, telling them to make no resistance—that their sleeping will be natural, that nothing will be done to worry or fatigue them, that they will dream pleasant dreams, that they will wake up feeling better; then that they are feeling drowsy, their eyes are heavy, objects look confused, the lids are falling, they are closed—in a moment more the patient goes off to sleep. This is the persuasive or suggestive method. It requires some little time—five to fifteen minutes. It may fail the first time and succeed the second. I will illustrate these two methods upon the patient before us.

The differences between these methods, according to Bernheim and Forel, are fundamental in their effects. The method adopted by Charcot will sometimes throw hysterical and nervous persons into a state of spasm or hys-

terics; and this, I am sure, is the case, because I have produced such results myself. On the other hand, the suggestive method, it is claimed, has no such effects and does not leave injurious after-effects.

NUMBER AND CHARACTER OF SENSITIVE PERSONS.*

Profs. Bernheim and Liebeault find that, by their method, they can hypnotize 90 per cent. of their patients. Forel, after studying the work at Nancy, says he has been able to hypnotize at least 80 per cent. of his patients. The class of persons that are hypnotized does not include necessarily the hysterical or weak-minded, but includes healthy persons, and the condition of hypnotism as produced by suggestion is not an abnormal one. It is not a neurosis, but simply a form of sleep. Children and highly excitable hysterical persons and insane persons are rather less easily affected by this method than those with a sounder nervous constitution.

DEFINITION.†

Hypnotism is a peculiar mental condition in which the will power is suspended and the person is put in a state in which he has to respond to every

*The proportion of persons of all ages found to be hypnotizable by Beannis was about 18 or 20 per 100. Children up to the age of 14 are very susceptible. After the age of 55 susceptibility lessens. Men are almost as easily affected as women; but persons of a docile mind, and those trained to some degree of mental discipline and capacity for submission, such as soldiers and artisans, are more sensitive.

†It was abundantly shown by the experiments in this city, some years ago, that the classical stages described by Charcot do not exist except by suggestion; however, there are different degrees in which the subject may be hypnotized, just as there are different degrees of soundness of sleep. And it should not be forgotten that

suggestion that is made to him by the operator. The powers of his mind that are left are also in such a state that they can be concentrated in one or another direction very powerfully. There are therefore in hypnotism three conditions. 1. Suspension of will power. 2. The condition of automatic response to suggestion. 3. Concentration of mental force in various directions.

EXPERIMENTS.*

I will now illustrate some of the phenomena that this condition shows :

I can affect his sympathetic system, or organic system, only indirectly. I cannot by suggestion make his heart go faster or slower, or cannot by suggestion make his bowels empty themselves, or his skin grow white or red. I can, indirectly, do this by acting on his feelings. In the same way one

real therapeutic effects can be gotten even when the patient does not fall into sleep, and that the hypnotic state may not be one of actual unconsciousness. The stages mentioned by Liebeault are: 1. The patient does not sleep, or close the eyes, or lose himself at all. 2. The patient is awake, but the lids are closed and cannot be opened. 3. Is one of "suggestive catalepsy." 4. The patient cannot move his body spontaneously. 5. Contractions occur on suggestion. 6. Automatic obedience. In all the foregoing the subject recalls what occurs after the seance is over. Three other degrees are described, after all of which the subject does not remember what has happened. These are called somnambulant states. These various degrees are not sharply defined from each other. They all have the common character, *not of sleep*, but of suggestibility. "Hypnotism," says Bernheim, "is the provocation of a peculiar mental state which augments suggestibility."

*Prof. Dana now waved his hand before the subject's face and caused him to pass into a profound hypnotic state. First, he produced hemi-anæsthesia, extending even to the eye, nose, and sense of taste, so that quinine was tasted only on one side, anæsthesia stopping

can apparently move or increase the power of the special senses—one can increase the sense of hearing or the sense of sight, so that persons can even count figures or see figures through the closed lids.

PRACTICAL APPLICATIONS.

The subject that I show here is what we call a trained subject—a man who has been hypnotized so often that he is hypnotized now very easily. He is a genuine case, however, and illustrates all the phenomena of well-marked hypnotism.

In applying hypnotism to other persons you will not so easily get out all these phenomena, but you can accomplish a good deal practically in the cure of diseases. You take patients in your office, put them through the suggestive method I have

exactly in the middle line. Very marked motor disturbances were next produced, such as catalepsy and tetanic rigidity, the subject assuming and maintaining the opisthotonos position holding any part of the body in a state of rigidity wherever it was placed, etc. The subject was then told that hideous forms were in the room pursuing him, which caused a very decided acceleration of his pulse, as proven by my watch, and came near making him escape over chairs and tables from the room. The physiological effects of various medicines held at a distance from the subject were experienced by him, such as emesis from ipecac, etc. But this result was due to suggestion simply. The Professor then told the subject that he had before him an audience of depraved drunkards, and suggested that he make them a temperance speech. This he did *ex consuetudine*, and gracefully finished with a poem from Thomas Hood. He was then told that he had a chill, whereupon his face became cold and palid, and, shivering all over, he fastened his cloak closely about him. Total abolition and then exaggeration of the tendon reflexes were alternately produced. The subject was told that in forty-five seconds he would awake. We all looked at our watches, and just at the time appointed he did awake.—J. M. H.

described—you suggest to them when in this state that they will have no more rheumatic pains, no more neuralgia, that they will have their menses regularly, that they will give up drinking, using tobacco, will sleep regularly that the trembling or paralysis will grow less—you do this on several occasions and you will in a pretty large per cent. of cases, relieve or cure functional or diathetic diseases. By using this method of the School of Fancy, applied in the way I have shown you, being very careful about giving it to hysterical women, imbeciles or insane, but confining it usually to persons of average sound nervous systems, and applying it only in cases where you know there is no malignant disorder, you can accomplish the same results that the mind curers and Christian scientists do, and you can do more, because you will not do the harm that they do, and you can apply the remedy in the proper cases. Here lies the great importance of this subject at the present time. I believe that by the proper application of suggestive medicine in the hands of trained physicians, we can take away the ground from under the mind-curer and the faith-healer and all that class of charlatans. I would not recommend this practice, however, except under great cautions. Watch the effect upon persons on whom you try it. Don't let the laity experiment on each other. Traveling mesmerizers and professional hypnotizers ought to be abolished. Hypnotism ought never to be used in private parlors—ought not to be made a toy or plaything. it can be made, however, as I have already said, not only useful in medicine, but perhaps it may be used in moral education and in correcting

the morbid habits, such as those of tobacco, alcohol and opium.

Those of you who are interested in studying the more recent literature of this subject will find that very little has as yet appeared in English. * *
—*North Carolina Medical Journal.*

DIPHTHERIA A CENTURY AGO.

[The selection given below has been kindly furnished by Dr. H. S. Orme, Los Angeles, from the *Massachusetts Magazine* for 1791, chap. xvi., page 634. It is valuable as a historical document, and at the same time interesting by way of comparison with our present understanding of this disease.—*Ed. Journal.*]

Throat Distemper.—A reader of taste and judgment will derive much entertainment from this chapter. He will see, and lament the operation of human prejudice and passions. But his attention will be more particularly engaged by a new species of pestilence, which alarmed and ravaged the country.

About this time the country was visited with a new epidemic disease, which has obtained the name of the throat distemper. The general description of it is a swelled throat with white or ash colored specks, an efflorescence on the skin, great debility of the whole system, and a strong tendency to putridity. Its first appearance was in May, 1735, at Kingston in New Hampshire, an inland town, situate on a low plain. The first person seized was a child, who died in three days. About a week after, in another family, at the distance of four miles, three children were successively attacked, who also died on the

third day. It continued spreading gradually, in that township, through the summer, and of the first forty who had it, none recovered. In August it began to make its appearance at Exeter, six miles northeastward; and in September, at Boston, fifty miles southward, though it was October, before it reached Chester, the nearest settlement on the west of Kingston. It continued its ravages through the succeeding winter and spring, and did not disappear till the end of the next summer.

The most who died of this pestilence were children, and the distress which it occasioned, was heightened to the most poignant degree. From three to six children were lost out of some families; several buried four in a day, and many lost their all. In some towns, one in three, and in others one in four of the sick were carried off. In the parish of Hampton Falls it raged most violently. Twenty families buried all their children. Twenty-seven persons were lost out of five families; and more than one-sixth part of the inhabitants of that place died within thirteen months. In the whole Province, not less than one thousand persons, of whom above nine hundred were under twenty years of age, fell victims to this raging distemper.

Since the settlement of this country such a mortality had not been known. It was observed that the distemper proved most fatal, when plentiful evacuations, particularly bleeding, were used; a great prostration of strength being an invariable symptom. The summer of 1735, when the sickness began, was unusually wet and cold, and the easterly wind greatly prevailed. But it was acknowledged to be, not "creature of the seasons;" as it

raged through every part of the year. Its extent is said to have been "from Pemaquid to Carolina;" but with what virulence it raged, or in what measure it proved fatal, to the southward of New England, does not appear.

The same distemper has made its appearance at various times since. In 1754 and 1755 it produced a great mortality in several parts of New Hampshire, and the neighboring parts of Massachusetts. Since that time it has either put on a milder form, or physicians have become better acquainted with it. The last time of its general spreading was in 1784, 5, 6 and 7. It was first seen at Sanford in the county of York; and thence diffused itself, very slowly, through most of the towns of New England; but its virulence, and the mortality which it caused, were comparatively inconsiderable. "Its remote, or predisposing cause, is one of those mysteries in nature, which baffle human inquiry."

On its first appearance in Boston, it was supposed to be nothing more than a common cold; but when the report of the mortality in New Hampshire was received, and a young man from Exeter, whose brother had died of it, was seized (October, 1735), the house was shut and guarded, and a general alarm spread through the neighboring towns and colonies. Upon his death no infection was observed in that house or neighborhood; but the distemper appeared in other places which had no communication with the sick. The physicians did not take the infection nor convey it to their families, nor their other patients. It was therefore concluded, that it was not like small-pox, or the plague, communicable by infection from the

sick or from clothes; and the physicians, having, by desire of the select men, held a consultation, published their opinion, that it proceeded entirely from "some occult quality in the air."—*Weekly News Letter*, April 29, 1736.

Dr. Douglas computes the number of persons who had the distemper in Boston at 4,000, of whom 114 died, which is one in thirty-five. The whole number of inhabitants at that time was estimated at 16,000.—*Pacific Medical Journal*.

DIPHTHERIA FROM CATS.

BY P. C. COLEMAN, M. D.,
Colorado, Tex.

In a recent editorial in the *Medical Record* it is said: "There seems to be quite strong evidence that there is a natural malady in cats which, when conveyed to man, is diphtheria; also, that there is a disease occurring in cows which gives rise to this peculiar cat-diphtheria when the milk of the infected cow is drank by cats."

After a residence of five years in Western Texas, I saw the first case of diphtheria in December, 1888, the case occurring in a child, four years old, and living thirty miles in the country, and in a region so sparsely settled that the nearest neighbor lived six miles away. The child had not been in contact with other children for months, and yet developed a violent case of diphtheria, which came very near being fatal, and which was followed by paralysis six weeks after recovery. The other members of the family contracted the disease from the child.

I was puzzled to account for the origin of this case for a long time.

The child lived at an elevation of two thousand feet above the sea, in a dry atmosphere, was almost continuously isolated, far from any source of contagion, and rarely ever saw other children. The father of the child asked me, some time afterward, if children ever contracted diphtheria from cats, and stated that two kittens died from some disease which he believed to be similar to the disease the child suffered from, and that he believed the kittens communicated the disease, as the child nursed them almost constantly, and had often been noticed kissing them. I am confident this case was communicated by the cats. I reported it in full at the time, but could not account for its origin, as the father had not then spoken of the cats being affected.

CONSUMPTION IS ONE OF THE DEADLY PENALTIES OF TIGHT-LACING.

"The unnatural and most injurious habit of contracting the waist and chest by stays in a vice-like grip interferes with the functions of all the abdominal, pelvic and thoracic organs. The circulation and proper function of the liver and spleen are greatly interfered with, digestion and chylickation are impaired, the pelvic organs are depressed below their normal level, the diaphragm is prevented from proper play, and the ribs cannot expand the chest walls; and the inevitable consequence is deficient respiration and aeration of the blood," and *consumption*. "Under 5 years of age the census of 1870 and 1880 show more deaths of males than females from this disease. They also show a gradual in-

crease of females after that age to 10 years, and after that to 15 the increase is quite rapid, so that at the latter age the census of 1870 gives deaths from males 501, and for females, 1056; and for 1880 the disproportion is still greater. Between the ages of 15 and 20 it is considerably more than double. This is the tribute females pay to fashion at that age. Females continue to hold the ascendancy till 35 years, in the census of 1870, and to the 40th year in that of 1880, when the males again come to the front and lead the list the balance of life."—*B. F. Hart, M. D., Brownsville, Mo., in St. Louis Courier of Medicine.*

ACTIVITY OF THE SCARLET-FEVER POISON AFTER A YEAR.

Dr. J. Brook, Surgeon U. S. Army, of Fort Monroe, Va., communicates the following case: "A girl aged about eight, living at this place, was some months ago attacked by scarlet-fever, the disease running a typical course. For a long time no possible source of contagion could be discovered. The child had not been absent from home, had been with no one lately exposed, and no other case was known to exist anywhere in the vicinity. Subsequently I learned that one of the house-servants had nursed a case of scarlet-fever in a distant city just about a year before. After the case terminated she packed some of her things, including some clothing then worn, in a trunk and left the place. A year later she had the trunk sent to her here, opened it and took out the contents, the little girl being present and handling the things. Very soon after the latter was attacked, as stated.

"As fixing the period of incubation, it would be interesting to know precisely how many days passed for the time the trunk was opened until the disease appeared; but I was unable to determine that period satisfactorily."—*The Medical Record.*

THE ORIGIN OF DIPHTHERIA FROM BIRDS AND OTHER ANIMALS.

It has been known for some years that birds and poultry are subject to a disease which corresponds to what in the human being is known as diphtheria. Several foreign observers have gone a step further, and have endeavored to show that the disease is capable of transmission from animals to human beings. Last year Dr. Turner drew up an interesting report for the Local Government Board, bearing on this alleged transmissibility, and he adduced a large number of observations which seemed to indicate a connection between a diphtheritic affection, not only in fowls, but in rabbits and cats, and a similar affection in man. The report comprised several instances in which the "strangles" in horses appeared to give rise to a like train of symptoms. In a thesis by Dr. Menzie, the transmission of the disease from animals to man is attributed to the dejections of the former. Diphtheritic affections among fowls are very common in Italy, and he quotes an instance in which four out of the five children of a medical man were attacked and died. In this case he incriminates the thatched roof, which was inhabited by colonies of fowls, geese, pigeons, etc. The dejections of these animals, washed off by the

rain, found their way into the cistern or well from which the supply of drinking-water was drawn.—*Medical Press and Circular*.

THE INJURIOUS INFLUENCE OF LOWERING TEMPERATURE AND NIGHT AIR UPON SLEEPING CHILDREN.*

BY GEORGE BYRD HARRISON, M. D.,
Washington, D. C.

I have thought that no more practical or fertile subject could be offered for your consideration than the protection of infants and children, during the hours of sleep, from the depressing influence of progressively lowering temperature and the injurious effects of night air.

Judging from daily observations of prevalent methods and practices, the laity are grossly ignorant and uninstructed by us in regard to these matters of unquestionably genuine importance.

The instability of the nervous system of the infant, leading, as it does, to rapid and uncertain vaso-motor changes, added to the fact of a cutaneous superficies much more extensive in proportion to body weight than in the adult, and hence contributing to more complete evaporation from (and more sudden cooling down of) the organism, would seem to be sufficient to give us a note of warning in this direction.

The following statements of Mr. Finlayson, based on 281 observations made upon 18 different children, of ages varying from 20 months to 10½ years, may, I think, be fairly accepted as reliable :

*Read before the Washington Obstetrical and Gynecological Society, December 20th, 1889.

"1. The daily range of temperature is greater in the healthy child than that recorded in healthy adults, amounting to 2° F.

"2. There is invariably a fall of temperature in the evening, amounting to 1°, 2°, or 3° F.

"3. This fall may take place before sleep begins.

"4. The greatest fall is usually between 7 and 9 p. m. (at least under the conditions of life in hospital).

"5. The minimum temperature is usually observed at or before 2 a. m.

"6. Between 2 and 4 a. m. the temperature usually begins to rise, such rising being independent of food being taken.

"7. The fluctuations between breakfast and tea time are usually trifling in amount.

"8. There seems to be no very definite relationship between the frequency of the pulse and respirations and the amount of temperature, the former being subject to many disturbing influences."

Some years since during an endemic of diphtheria at the Washington City Orphan Asylum, the evils of "cold sleeping" — *i.e.*, of exposure of children during the hours of sleep to a progressively lower temperature than that in which the day had been passed—seemed to me to be very forcibly and painfully demonstrated.

The disease, in the terrible tracheal form, attacked the nursery, in which were some fifteen or twenty children, ranging in age from two to seven years.

Three promising little ones died in the institution; and so did another whose mother, seeing that it was not well, insisted upon removing it to her home.

I tried very earnestly to find some reason why this form of the disease had occurred in this particular ward; for the endemic had proved comparatively manageable in the older wards, its local manifestations in these being confined to the fauces and nostrils.

The only explanation (but one that seemed to me to be sufficient, and to which I was finally led) was this:

The playroom opened into the larger and longer dormitory. Both were heated by steam. The apparatus in the playroom was in perfect order, but that in the dormitory had given out, and the nurses relied upon leaving the doors into the warm playroom open to supply the heat needed for the sleepers. All the children in this ward were at once transferred into two small rooms on the opposite side of the hallway—rooms entirely too small for the accommodation of so many, but well ventilated and well heated—and not another case of croup or diphtheria occurred in this part of the house, although the endemic continued to progress in other wards.

While, as a matter of course, such an experience as this is not conclusive, it will at least be admitted in the way of corroborative evidence.

The practice of admitting night air into sleeping rooms, by way of improving ventilation, has been made too common by the imperfect construction of our houses. It is under any circumstances a bad and slovenly makeshift. Not only is progressive lowering of temperature insured by this means, but the foul air of the night, especially in a city, is in itself, and must of necessity be, a prolific source of injury to the sleeper. It is a matter of common observation in

malarial districts that immunity from that poison may be to a large extent secured by shutting the windows at sunset and creating a draught in the chimney by means of a slight fire.

A few years since, my attention was attracted by an article copied into the *Braithwaite Epitome* from the *Medical and Surgical Reporter*, penned by an irregular practitioner of our city, but replete with good sense according to my own view of the matter.

I believe the only dogma of our school of medicine is to avail of useful observations and effective methods, from whatever source they may be derived; so I shall offer no further apology for liberally quoting from this paragraph.

Its author remarks at the outset: "If to sleep in the night air were not injurious to the animal economy, the beast would not be instinctively led to avoid it, for when beasts sleep in the cold night air they always place their nostrils near their side in order to breathe the air tempered by the warmth of their bodies; and even birds, whose lives are spent in the air, usually sleep with their bills beneath their wings or hidden amongst the feathers of their breast."

Again he truly observes: "An individual is never known to suffer from sickness or disease caused by sleeping in a clean room from which the night air is excluded." Albeit, as he claims, the converse of the proposition is often noted.

Again later on: "It is not only the lowered temperature of the night air that is so seriously objectionable, but it is the breathing, while asleep, of the gaseous, poisonous properties which the night air contains, in a more condensed and active form."

... "Most beasts line their lairs with dead grass, moss or other substances; not to make them soft, but to make them warm. This instinctive act is directed by Nature in obedience to the physiological fact that, when the body is at rest and asleep, the organs do not perform their functions with the same activity that they do when the body is in motion."

"Hence the bodily temperature always sinks slightly during sleep; and if, while asleep, cold air is allowed to come in contact with the body and the lungs, the result is that heat is carried off more rapidly from the sleeping person than is commensurate with health, and has the effect of diminishing the resistance of the system to those morbid influences so characteristic of night air."

In those cases in which we find ourselves obliged, however, by the imperfect ventilation of sleeping apartments, to admit the outside air, a very simple and practical device for "robbing it of its sting" has been suggested incidentally by Dr. J. F. Bransford, of the U. S. Navy.

He was led to its adoption by certain experiences in Central America, and made it a subject of official report during one of the recent Nicaraguan expeditions.

After very careful experiment and the comparison of the results of several expeditions into the interior, during which various methods of protecting the officers and men from miasmata were tried, he reached the conclusion that sleeping within mosquito bars secured by far the most complete immunity.

By this means the men were protected from currents of air; the atmosphere was, to a degree, sifted of germs be-

fore it was admitted to the respiratory organs; and, lastly, he found by actual experiment that the temperature within the bars was one or two degrees higher than that of the tent outside of them.

In deference to our ex-president, Dr. A. F. A. King, we must also note the elimination of the mosquito—an insect proven by him and others to be *pestiferous* in the truest etymological sense.

The protection of the persons of children from draughts of air and actual exposure during sleep is of course not intended to be discussed in this paper.

Notwithstanding that the "calmness of children's repose" has become proverbial in prose and poetry, and that the medical books establish it as a *sine qua non* amongst the indications of health, I take it that, in the experience of most of us, children are wont to emulate "old Mrs. Jackson, poor old soul," in habitually "kicking the kiver off." Certainly it has been my observation of them, whether grave or gay, sick or well.

Night drawers or sleeping bags are essential in most cases, and almost all mothers have come to recognize the fact.

There is one common custom, however, which, while tending to moderate the temperature of the bedroom, leads to serious vitiation of the air—viz., turning the gas low without actually extinguishing it. A year ago, in Baltimore, an adult relative of my own seemed, by quite conclusive proofs, to have wrecked her health for a time, if not to have endangered her life, by sleeping under these conditions in a small room without sufficient ventilation.—*American Journal of Obstetrics.*

Salt Lake Sanitarian

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Devoted to the prevention and cure of diseases and injuries, and the promulgation of the laws of health and life.

M. B. SHIPP, M. D., EDITOR.

SALT LAKE CITY, DECEMBER, 1890.

EDITORIAL.

OVER-WORK.

Of the many conditions and influences that are operating to destroy health and shorten life, over-work may be mentioned as one of the factors that is accomplishing its full share in this direction. Its ravages are not alone to be found in the lower walks of life, among the poor—those who are striving for a subsistence, but those who are better off, who have plenty of “this world’s goods” to make and keep themselves comfortable, are equal sufferers. There is this difference between the two classes: The first mentioned are engaged in physical toil, long hours laboring with their hands; whereas the other class are taxing their vitality by the mental strain and exertion they are making in their business life.

Temporarily they may seem to be the gainers by putting in “over time,” but in the end the results will show serious losses sustained by impaired health and shortened life.

Great exertions, mentally or physically, are perfectly compatible with a state of good health. In fact, activity is an essential to the best condition of body or mind. But there must be had at proper stated intervals a time of rest, that the processes of repair may

be uninterfered with. Exertion should not amount to exhaustion. Recuperation takes place but slowly and feebly if the vital forces are tired out.

The strain of work should be abandoned before the recuperating powers are seriously infringed upon. The interval of rest must be of sufficient duration to enable the body, whether it be muscle or nerve tissue, to be placed in its normal condition. A state of rest is essential that the labors of the internal organs concerned in the building up of the wasted tissues may be done properly.

A fruitful source of trouble is getting to work too soon after an attack of sickness. It often happens that the relapse thus occasioned is so severe that it has a fatal termination.

Again, severe attacks of disease might be warded off if the early premonitions were heeded and the individual quit work and gave the body and mind the rest so much needed. But society is so organized, the great rush so fearful, that but little hope can be entertained for the better until a different order of things shall prevail. The poor will continue to battle to hold their heads above water; the rich will keep on struggling to retain what they have and to get more.

The stream of business life is broad and deep; its currents of manufacture, speculation, commercial, religious, civil and political are mighty and strong. More impetuous and swifter are they than the resistless currents in the grand rapids of the mighty Niagara. If a man enter this business stream he must struggle early and late, if he does not his place will be swept away, and on the first jutting sand bar from out the banks of the stream will he be found laid out high and dry,

with his head thrown back upon a block of failure. So fiercely are the fires of competition burning, so intense are the desires that possess men's souls to become rich, the labors of their lives are so feverish and exhaustive that the health of the race is jeopardized and the life of man is shortened by this over-work.

MICROBIC LONGEVITY: SCARLET-FEVER.

Thirty-five years ago an opulent family lived in a palatial home in one of our most beautiful suburbs. Two lovely children graced the happy household. But scarlet fever, that fell foe of childhood, closed their eyes in death. The grief-stricken mother gathered up little slippers, slippers and toys, with two golden tresses, and reverently laid them away in a trunk as sad but priceless mementoes of her lost darlings.

War came again with its tragic vicissitudes and death time and again threw its shadow over the hearthstone.

Finally the place passed into stranger hands. Last year two families took it as a summer residence.

The children, six in number, with childish curiosity, began to explore the secret recesses of the grand old house. In a closet was found the forgotten trunk. A touch dissolved the time-corroded clasp, and one by one the sacred relics were removed, until a faded newspaper was found, which told the pathetic story. Half-spelling out the meaning, they took it to their mother, who chided their curiosity, and tenderly replaced the treasures.

Five days after this occurrence two of the children were seized with scar-

let fever, and forty-eight hours later the other four were attacked.

Two cases were grave, the others mild. All recovered. Was the disease contracted from the trunk? I think so, because there was no other ascertainable source of infection.

Moral: Silks, woolen and hair, being good fomites, should not be put away in air tight trunks as mementoes of friends dying with infectious diseases, because they may become, at some remote period, the starting-point of a wide-spreading and a disastrous epidemic, a calamity which was averted in this instance only by complete isolation.—*Professor T. A. Atchison, M. D., Nashville Journal of Medicine and Surgery.*

PREVENTING CONSUMPTION.

The New York City Board of Health has issued the following rules to be observed for the prevention of the spread of consumption: Pulmonary tuberculosis (consumption) is directly communicated from one person to another. The germ of the disease exists in the expectoration of persons afflicted with it. The following extract from the report of the pathologists of the Health Department explains the means by which the disease may be transmitted: "Tuberculosis is commonly produced in the lungs (which are the organs most frequently affected) by breathing air in which living germs are suspended as dust. The material which is coughed up, sometimes in large quantities, by persons suffering from consumption contains these germs often in enormous numbers. * * The material when expectorated frequently lodges in

places where it dries, as on the street, floors, carpets, handkerchiefs, etc. After drying in one way or another, it is very apt to become pulverized and float in the air as dust." By observing the following rules the danger of catching the disease will be reduced to a minimum : 1. Do not permit persons suspected to have consumption to spit on the floor or on cloths unless the latter be immediately burned. The spittle of persons suspected to have consumption should be caught in earthen or glass dishes containing the following solution : Corrosive sublimate, 1 part ; water, 1,000 parts. 2. Do not sleep in a room occupied by a person suspected of having consumption. The living-rooms of a consumptive patient should have as little furniture as practicable. Hangings should be especially avoided. The use of carpets, rugs, etc., ought always to be avoided, 3. Do not fail to wash thoroughly the eating utensils of a person suspected of having consumption as soon after eating as possible, using boiling water for the purpose. 4. Do not mingle the unwashed clothing of consumptive patients with similar clothing of other persons. 5. Do not fail to catch the bowel-discharges of consumptive patients, with diarrhoea, in a vessel containing corrosive sublimate, 1 part ; water, 1,000 parts. 6. Do not fail to consult the family physician regarding the social relations of persons suffering from suspected consumption. 7. Do not permit mothers suspected of having consumption to nurse their offspring. 8. Household pets (animals or birds) are quite susceptible to tuberculosis ; therefore, do not expose them to persons afflicted with consumption ; also do not keep, but des-

troy at once, all household pets suspected of having consumption, otherwise they may give it to human beings. 9. Do not fail to thoroughly cleanse the floors, walls, and ceilings of living and sleeping rooms of persons suffering from consumption, at least once in two weeks." Ten thousand copies of the report were ordered to be printed for distribution.—*The Medical Record*.

CONSTIPATION—A CAUSE AND ITS TREATMENT.

Dr. A. W. M'Kinney, writing on the above subject in the *Kansas Medical Journal*, among other good points raised, brings out an important one upon the construction and condition of water closets. "After a residence is built the privy is made of the refuse scraps, and all the carpenter can do is to construct a something that will shield from public view. In addition to ill-construction, it seems that those who use them emulate each other as to who can pollute them most. When we are compelled to use the average privy we feel like condoning the error of constipation, and do not blame any one for dreading to visit a place that might be decent if not pleasant, but is generally loathsome."

There is entirely too much truth in these assertions. All will admit that the disease, constipation, is a very prevalent one, particularly among adult females. It is equally true that its cause often rests in an unnatural habit. It is as natural for a human being to desire at stated intervals an evacuation of the bowels as it is for him to fill his stomach with food, and in its natural condition there is no

disposition on the part of the lower bowel to refuse to perform its duty. In the lower animals, so far as our observation and experience extend, there is no such affection as habitual constipation. This is so because the receptacle mentioned is always relieved when a desire is expressed, the result being that the bowel is always ready to act when it contains any substance demanding removal. We would not be understood as advocating the immodest adaption of the example set by the inferior animals, but we do mean to say that there is entirely too much mock modesty thrown around this imperative function, and that few resort to it as a pleasure, but as an unavoidable duty. It was prominent among the teachings of the late Austin Flint, Sr., that if so much unnecessary secrecy and so many disagreeable features were not attached to this daily obligation, there would be vastly fewer cases of constipation.

Look, for instance, as has been quoted, at the average country house. The water closet is built a distance from the dwelling, fifty yards or more, that the house may be protected from the disagreeable odors, its approach is in full view of neighbors and passers by, and exposed to the pelting rain in winter or the burning sun in summer, as the case may be. The structure is four by six or smaller, open alike to rain and sun, and constantly perfumed with the concentrated essence of rottenness. Arrangements in cities are better, but still far from perfect. There the miserable little stalls in public buildings, devised for strict privacy, serve as a shelter for the vulgarly disposed who take advantage of the seclusion to mutilate the walls with vile writings and drawings and

otherwise pollute the place in a manner unmentionable. It might perhaps be better to construct such public places so that they would be more public, and thus compel those who will not be decent alone, to observe decent practices in the presence of others.

As for private dwellings, let the water closet be a comfortable room of ten by twelve, or larger. Furnish it with carpet, wash basin, towels, table, reading matter, etc. Let the trap be so arranged that when raised the fact will not be reported through the entire house. If the closet be built away from the dwelling, have its approach protected and pleasant. In short, contrive a room that will not be disagreeable to occupy and bestow not all the good things upon the other less necessary apartments to the utter neglect of this. When such an improved custom becomes general, constipation will become less so.

THE RATIONAL TREATMENT OF CONSTIPATION.

BY DELANCEY ROCHESTER, M. D.,
Of Buffalo, N. Y.

From the study of quite a large number of cases of constipation, in both private and dispensary practice, I have come to the following conclusions, viz.: that the neglect of the important function of daily defecation leads to a poisoning of the system by absorption of gases and other materials, the products of decomposition of fæces retained in the bowels; that the nervous system is seriously affected directly by the poisons thus absorbed and, reflexly, by the hardened masses of fæces in the rectum and colon; that, as a result, neuralgias of various

nerves make themselves felt; that the digestive secretions are perverted, thus interfering with the proper nourishment of the individual, and leading to anæmia and all its trains of ills: that is more often due to neglect upon the part of the individual to respond to the calls of nature at the proper time than to any other one cause, thus producing a habit of constipation. This is often the case in early childhood, and it is our duty, as physicians, to impress upon mothers the necessity of compelling one movement from the bowels of the baby and young child at a given hour every day. This can generally be accomplished by attention to diet, and by placing the child on the stool regularly at the same hour every day.

In every case of constipation that presents itself, it is our duty to study carefully the conditions and mode of life of the individual to learn the causes of the constipation and overcome it by hygienic means rather than by the administration of cathartics and laxatives. Many cases can be cured by the simple administration of cold water morning and evening. Where the constipation is due to the diminution of digestive secretions, this can be often overcome by proper exercise, such as rowing, horseback riding, etc. Where exercise alone will not accomplish the result, the administration of some simple bitter tonic will excite the normal secretion and thus overcome the constipation; when the simple bitter tonic will not accomplish this result, the use of some substance with the special property of increasing the flow of one or more of the gastrointestinal juices will be beneficial. The use of senna or cascara sagrada in combination with *nux vomica* and

cinchona, forms an excellent remedy. But for the accomplishment of the desired results, these medicines should not be given in cathartic doses, but in doses of from seven to fifteen minims, given before each meal, if possible, a half hour before.

After it has been taken for a week or two weeks, the dose should gradually be reduced, and finally the medicine abandoned altogether. In those cases in which gastric catarrh is one of the causal factors, or, at least, an accompaniment of the constipation, systematic lavage, or the sipping of half a pint of hot water one hour or half an hour before each meal, is generally followed by most excellent results.

In cases of anæmia with constipation, I have obtained most gratifying results by the use of Carlsbad salts, given in doses of onehalf or one teaspoonful in four or six ounces of hot water, half an hour before each meal, and carbonate of iron in the form of Blaud's pills or Vallet's mass, or tinct. ferri chloridi, after each meal. The administration of the iron in these cases, without the simultaneous use of a laxative, is worse than useless.

In cases in which a lack of tone of the lower bowel is the evident cause of the constipation, as in people who lead a very sedentary life, regular systematic massage of the abdomen for half an hour, morning and evening, rubbing in the direction of the course of the colon from the cæcum to the rectum will generally bring about the desired result.

In those obstinate cases in which this mode of procedure is not successful, the administration of strychnine in doses of from 1-20 of a grain, three or four times a day, kept up for a con-

siderable time, in addition to the massage, is generally all that is needed. It is seldom that it is necessary to add aloin to the strychnine, but when it is, it had better be combined with belladonna also, to prevent the griping, as in the aloin, belladonna and strychnine pill, which, we thus see, has its proper place—though a very limited one—in the treatment of chronic constipation.

The use of enemata, or of glycerine, or soap suppositories, is only palliative and produces no permanent benefit.

To recapitulate, the physician should never forget to inquire into the condition of his patient's bowels, remembering that lack of the proper performance of their function has far-reaching results of a direful character; and in the treatment of chronic constipation it should be his aim to search carefully for the cause and remove it by the use of hygienic measures, such as the liberal use of water, fruits in their season, and other dietary means; by regularity of habits, by proper out-of-door exercise, by massage of the abdomen.

The great majority of cases can be cured by the use of one of these measures, or a combination of several. When, however, they one or all fail, as occasionally they do, we may turn, as a last resort, to the proper use of appropriate medicines. There can be no ironclad rule as to what one medicine is useful in chronic constipation. Each case must be carefully studied and treated according to its individual necessities. When it is necessary to use medicines in the treatment, it is well to begin with one good purge by the use of calomel, blue mass, or the compound cathartic pill of the U. S. P., to be followed by

the systematic use of the remedies indicated in the special case, remembering that it is very seldom necessary to use a true cathartic in such cases, but generally a stimulant, either to the digestive secretions, or to the muscular or nervous motor apparatus.—*Buffalo Med. and Surg. Journ.*

THE CONTAGION OF SCARLET FEVER.

TO THE EDITOR OF THE MEDICAL RECORD.

Sir: I take notice of an article in your valuable number of the 28th ult., page 353, on "Scarlet Fever" communicated by a third healthy person. My experience is this: In January of this year I visited a little daughter of Mr. W. L——, aged five years and six months. She had scarlet fever. My visits were made at 10 a.m., three miles from home. I did not arrive home any day until about 3 p. m., or five hours after my visit on this patient. I ride in an open gig, and everybody knows it froze fearfully. Every day and most of the time up here the wind blew. I always removed my two outer coats at home and hung them three rooms distant from my children, or at times left them to freeze in the horse barn. I put on a coat never worn to visit scarlet-fever patients, and then took upon my shoulder "the little white-haired" lass, eighteen months old, who ran to meet me. She was taken with the fever before I had finished my visits of three weeks on the little girl. My little eighteen-months' child had not been out of doors for two months, no one from an infected house had been near my home, for there were but three families in town who had the disease during

the year. I either brought the disease home in my hair (which I believe) or in my pants below the region of the bottom of my overcoat.

Two years since I attended a case. One day I drove about one mile, stopped at a house where was a little girl which I did not approach nearer than ten feet, nor did I sit down. In nine days that child had the scarlet fever. The mother said I brought it.

Again, a few years ago I attended one family four miles from home. In driving I wrapped the robes close about my limbs. A month afterward I took my ten-year old daughter to ride, using same lap-robes. In a few days the daughter came out in full scarlet fever, and subsequently fearful dropsy. These facts are stubborn, and to my mind prove that a third healthy person can carry the contagion of scarlet fever.

Yours, etc.,

W. H. MATHER, M. D.

TO THE EDITOR OF THE MEDICAL RECORD.

Sir: Dr. Baruch's letter on page 353 of *The Record* calls to my mind an experience of my own bearing on the question discussed by Dr. Baruch. Several years ago, in the winter season, I had charge of two children, smartly, but not very severely, sick with scarlet fever at a house about five miles from my residence, and visited them once a day for three or four days. As the mother had no assistance in the care of the children, it was my custom at my visits to take both children on my lap while she made up the bed in which they slept. After my visits I returned home, usually a little before supper-time. The youngest two of my children—about two and four years old—were convalescing from a moderate attack

of measles, and were rather fretful at that time of day, and I used to hold them on my lap to amuse and soothe them. In about a fortnight's time they were both taken with a mild form of scarlet fever. There were no other cases in the village where I then resided, during that winter, either before or after the sickness of my children. The circumstances were certainly in this case favorable to my conveying the contagion. At the house where the sick children were I commonly put on my overcoat and mittens directly after giving the children to the mother to replace in bed, and at my home took my own children in my lap almost as soon as I had laid off my overcoat. Yours very truly,

WILLIAM MANLIUS SMITH, M. D.

FILLING NAIL HOLES.

Carpenters and painters have frequent occasion to fill up nail holes and other defects in the woodwork of houses. Putty is the substance relied on to do this work, but there are objections to its use. The *Scientific American* recommends this substitute:

Take fine sawdust and mix into a thick paste with glue, pound it into the hole, and when dry it will make the wood as good as new.

One correspondent says he has followed this for thirty years with unvarying success in repairing bellows, which is the most severe test known. Often by frequent attachment of new leather to old bellows' frames the wood becomes so perforated that there is no space to drive the nails, and even if there was the remaining holes would allow the air to escape. A treatment with glue and sawdust paste invariably does the work, while lead, putty and other remedies always fail.

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OUR CLOTHES.*

By LUCY M. HALL, M. D., of Brooklyn, N. Y.

Then there are garments of humility and abnegation, as those of the Quaker and the nun, and again, garments of sorrow and garments of joy. As the wearers jostle each other in the streets, we seem to hear the dull thud of earth upon the coffin-lid mingled with the merry clang of wedding bells.

In the vagaries, absurdities, extravagancies, and distortions which have resulted from the various impressions which man has sought to convey by his outer covering, the great primary necessity for clothing has been almost lost sight of. This necessity is protection; protection from observation; protection from cold, from heat, from wet, from injury in various forms.

Comfort, convenience, hygiene, and agreeableness to the eye should all be regarded as necessary accessories. These, too, are largely lost sight of or ignored, because of the perversions of taste and obedience to customs which have grown out of centuries of abuse.

The materials chiefly utilized for clothing are cotton and linen of the vegetable substances; skins, hair, wool, silk, down, feathers, of the animal. Minerals, as metals, glass, and various stones, are much used as ornaments. Cotton, wool, linen and leather are

the most abundant and useful materials, and they form the principal part of the clothing of the great mass of the people.

Air is, as we all know, a bad conductor of heat and of electricity. So the warmth and electricity of the body are conserved by a covering which contains much air in its fibres. Water, on the contrary, is a good conductor of heat and electricity, and just to the degree that the air in the interstices of any material is displaced by water it becomes a vehicle for the rapid conduction of these away from the body. Woollen holds a larger quantity of air among its fibres, and will transmit through them a larger quantity of moisture without displacement of the air, than any other material. Silk stands next in these respects.

Woollen clothing is especially adapted to the needs of man.

Silk possesses a certain advantage in that, as a rule, it does not shrink and lose its original qualities in washing.

In a moist and changeable climate like ours, where rheumatic affections, catarrhs, sensitive throats and bronchial tubes are so prevalent, an especial effort should be made to maintain a healthful equilibrium of the temperature of the skin. To effect this, woollen or silk underclothes should be employed summer and winter. Not a patch of an undervest, covering neither chest, shoulders, nor limbs, but a garment which shall clothe these as well as the trunk.

* Read at the Brooklyn Institute, "On the Promotion of Health," in connection with the Health Exhibition, November 8th, 1889.

A lady with one thickness of linen over arms and shoulders will tell you that she is half dead from the heat. The thermometer stands at 96° in the shade. You place your hand upon the perspiring skin; it is clammy and cold. A poor sufferer, her joints swollen with rheumatism, said to me on a hot summer's day: "I perspire so, and suffer so terribly from the heat, that it is as hard to bear as my illness." The touch of her skin chilled me like wet ice. "You should wear light woollen or silk garments next your skin," I said; "no half-way business, but all over, from neck to wrists and ankles." I had hard work to convince her that she would be made more instead of less comfortable by doing as I advised, but I finally succeeded and with the happiest results.

There is great variation in the amount of clothing which different people require. Some seem to be almost insensible to cold; others, like poor Harry Gill, their teeth they chatter, chatter still. Special directions must therefore apply to special cases; but certain broad rules can be laid down for all.

Light woollen or silk underwear, suitable for midsummer, is not warm enough for spring or fall wear; and for winter a still heavier grade is needed. Partially-worn winter garments can often be wisely utilized for intermediate service; otherwise new ones of suitable thickness should be provided. Many persons make the mistake of wearing undergarments in winter which are *too* thick. These are likely to be all of woollen material, which, very closely woven and very heavy to begin with, has shrunk in the washing. They impede the healthful interchange between the air and the transpirations

of the skin; the latter reabsorbs into the circulation the poisonous matter which it has essayed to throw off; it exhales a peculiar sickly odor; the cutaneous nerves lose tone and action; they convey their disturbed impressions to the great centres, and all portions of the nutritive and eliminative systems suffer in consequence.

I have seen the most depraved physical conditions result from the wearing of very heavy, closely-woven flannels, which, after a few washings, had become almost impervious to air and moisture.

Too little clothing is equally bad. It prevents free action of the skin, which is constantly being chilled, and the vitality is lowered by the draughts made upon the internal heat in its efforts to resist the external cold.

Also the body should be *evenly* clothed, instead, as is often done, especially by women, the clothing being massed upon the trunk and the limbs left half clad.

Many ladies wear low-necked and sleeveless under-vests, so that they shall not feel the change so much in *decollé* dressing. This course is a constant menace to the health, and the danger is doubled whenever the baring process is carried out. The custom, except in its most moderate indulgence, is reprehensible from every point of view.

It is, perhaps, needless to say that "cleanliness is next to godliness," especially in the matter of underclothing.

Two changes per week in cold, and daily or bi-daily changes in warm weather are pretty good rules, if varied to suit especial conditions.

Night and bed clothing deserve particular consideration.

About one-third of our time is spent in bed.

Under the warm bed-covers the activity of the skin is increased and its exhalations must make their way to the free air of the room or the sleeper suffers; at the same time he must be kept warm and comfortable; therefore lightness, warmth, ventilation are required if the rest is to be perfect.

For the person a vest of some light, soft, woollen material, which has not been worn during the day, and a night robe, both of a thickness suited to the season, should be worn.

With bed as with other clothing, the greater the bulk, in proportion to fineness of fibre and lightness of weight, the greater the warmth. Down and feathers are light, but are too warm for bed-covers in our climate and they allow too little ventilation. A down comfortable thrown across the feet in very cold weather is not objectionable. Soft new woollen blankets in cold weather, one placed between the sheet and the hair mattress, and as many as are required for covers, are the best bed clothing. It is well to have woollen sheets where they can be afforded.

Cheese cloth or silk comfortables are good if they are so quilted or tied that the cotton portion is separated by the threads, and ventilation thus made possible.

Perhaps there is no article of dress which causes more discomfort to both men and women than shoes.

"It is amazing," says the author of "Rab and his Friends," "the misery the people of civilization endure in and through their shoes. Nobody is ever, as they should be, comfortable at once in them: they hope in the long run, and after much agony, and when they are nearly done, to make them fit, es-

pecially if they can get them once well wet; so that the mighty knob of the big toe may adjust itself and be at ease. Why do you see every man's and woman's feet so out of shape? Why are there corns, with their miseries and maledictions? Why do nails grow in and sometimes have to be torn violently off? All because makers and users of shoes have not common sense and common reverence for God and His works, enough to study the shape and motions of that wonderful pivot on which we turn and progress. Because fashion says the shoe must be elegant, must be so and so, and the beautiful, living foot must be crushed into it, and human nature must limp along Prince's street and through life natty and wretched."

We are all only too familiar with these miseries, and when they are aggravated by the wearing of high-heeled and narrow-toed shoes, the feet are tortured into every form of affliction which can assail these long-suffering members. The natural spring of the arch also, thus being destroyed, the spinal cord and brain are subjected to unnatural jar, the body is tilted out of its normal axis, and altogether, walking in comfort is made so nearly impossible that but little walking is done.

Happily a decided reform in street boots has been adopted by many ladies of fashion; easy, low-heeled shoes are in favor for vacation *neglige* with both men and women. Still narrow-toed shoes are much worn by both sexes, and these, with the accompanying high heels, are clung to by the mass of women.

The shoe should follow the natural outline and level of the foot, giving the toes room to spread when walking.

The soles should be ventilated by a small opening just at the back of the heel, and the inner sole should be of woollen, or thin, soft, perforated leather laid over the woollen, so as to absorb the perspiration. Many cases of habitually cold, clammy feet are cured by the wearing of such shoes.

A word in regard to the manner in which we Anglo-Saxons dress our young babies. It is atrocious, and why we have so long adhered to it is only to be accounted for upon the principle of the old Pennsylvania Dutch farmer, who balanced the grist in one end of his sack by a bag-stone in the other, because "what was good enough for his father was good enough for him."

To put a poor little doughy scrap of incipient humanity into a series of petticoats a yard and a half long, with great wide bands, which must be pinned around the little body, while the helpless little head rolls about, and the weak little neck is twisted and stretched, is simply barbarous, and "because our grandmothers did it" is no excuse for us.

All that is wanted is a bit of a soft wool or soft vest, then, while the baby is very young, an abdominal band fastened with three or four bits of tape, and finally a slip, reaching a quarter of a yard below the tiny toes, made of flannel, muslin, anything—single, double, or treble, at your pleasure, but which can be taken off in a jiffy and replaced by a clean, dry one whenever necessary. What an economy of mother patience and infant happiness! It is a good half hour's work to get a howling, kicking infant out of one of its present rigs and into another, and so the poor little amphibian gets on as best he can and takes it out in making things lively generally.

The mother, full of a beautiful but mistaken sentiment, has probably spent weeks in stitching at dainty fabrics in the close atmosphere of her room (which are altogether unfit for a drooling baby), when by giving herself fresh air, sunshine, active exercise, and intellectual pastime, she would have been heaping up untold benefits for herself and her unborn child.

In the human mind there seems to be a demand for some outward emblem of *grief* after the death of a friend.

The wearing of black or white, letting the hair grow a prescribed length of time, the rending of garments, lacerating the flesh, putting dust and ashes upon the head, and abstaining from washing, are all among the mourning customs of different peoples. The modern savage paints his face black, puts soots in his hair, and goes about looking very dirty and dejected. Civilized man of the present day places a band of black crape around his best hat and faces the world in calmness and dignity, but civilized woman envelopes herself from head to foot in the dreariest of midnight robes.

Indeed this blackness of darkness in many cases pervades every article worn by day or by night, and in some instances the bed, the toilette-table, the windows of my lady's private boudoir, even the carriage robes, and not alone the coachman's livery, but the coachman himself, must, in hue, be in consonance with the doleful humor of his mistress.

Mourning apparel is unhygienic in that it is usually heavy; in summer it is almost unendurably warm. The long veil, which so often accompanies it, is a troublesome appendage, and,

worse than all, the whole is depressing to the spirits.

Think of a home where a mother and two or three daughters, perhaps a grandmother and a maiden aunt, are all habited in mourning. Ugh! it makes one shiver to think of it. A merry-faced caller feels as though she had come to a funeral, and all the sparkle goes out of her eyes before she can cut her visit short and shut the door of the gloomy household behind her.

Little children feel the uncanny influence, and even the cat and dog are made dismal in proportion to their intelligence.

The enormous number of mourning costumes which we see daily upon our streets is a doleful spectacle and a reproach to the medical profession.

Thus in all stages and ages of existence, from primitive man, with his draperies of verdant foliage, to the nineteenth-century belle in her shimmering robes, from the cradle to the grave, *our clothes* are a most important factor in the sum total of life.

Finally, the last garment of earth, the still, chill shroud is folded about us and the poor clay is habited for the last time, and yet, in the beyond, there awaits the spotless robe, the shining crown, the celestial garments of the soul, and the real, the only living part of man stands at last forever clothed.

TEA A CAUSE OF COLD FEET.

Mr. Hutchinson says in the *Archives of Surgery*, July, 1890, that he once advised a lady to drink more tea. "I cannot touch it," was her reply. "It makes my feet icy cold, and wet with cold perspiration." On further in-

quiry she assured Mr. Hutchinson that she was quite certain of her facts, and had often tested them. She thought the perspiration was usually of the soles chiefly. Her hands were, she thought, also made cold, but not so definitely as her feet. Mr. Hutchinson says he had long been familiar with the fact that tea made the feet cold, but did not know that cold perspiration attended it. If drinking tea causes cold feet, then the Irish ladies who make up our tenement-house population must be walking around on solid chunks of ice most of the time, for they are all tea inebriates. As a matter of fact, Mr. Hutchinson's generalization will hardly do for this country, at least.

QUININE AND THE AMERICAN GIRL.

There are very few freaks of nature which quite come up to the American girl, if one may judge by the statements found in current European literature. One of the latest outbreaks of the feminine American fancy is the quinine habit. "American girls," says the *British Medical Journal*, "now carry about with them ornamental cut-glass bottles containing quinine pills, with which they dose themselves from time to time. If fatigued they take two pills; if chilly, one; if hungry (as they generally seem to be), four or five. We believe that ten is the correct dose for wet feet. The quinine bottle is equal to every emergency, and produced on all occasions. We are glad," adds the *Journal*, "it is no worse than quinine; at one time it used to be morphine and strychnine pellets; it might even now be ether."

CREMATION.*

BY PROF. L. C. LANE, M. D.

An Address delivered in the Ninth Course of the Lane Public Lectures in Cooper Medical College.

Among persons of note, who figured as patriots during the Colonial history of our country, was Henry Laurens, of South Carolina; he held the conspicuous place of President of the Continental Congress for some time. Laurens was a man of fortune, and was distinguished for his education and high social position; he was captured by the British, and the indignities to which he was subjected in England gave him an enduring place among those who fully redeemed the pledges, which, in behalf of liberty, they made of their lives, fortunes and sacred honor. In his will are contained the remarkable words: "My body is too good to be eaten by worms;" and he directed that after his death it should be burned; and in minute details he directed how this was to be done and how the ashes were to be disposed of. His body was subjected to cremation in 1792, nearly one hundred years ago; and I believe was the first example of the kind among civilized men on our continent.

A feeling deeply rooted and universal in the human race is sorrow for the loss of kindred and friends; tears, which are the visible expression of this pious sentiment, have a formation in every breast. The universality of grief is attested in every manner, from the elegant elegiac verses of Moschus and Bion, to the touching act of the Amer-

ican Indian mother, who sprinkles the milk of her breast on the grave of her infant.

Inspired by this sentiment, one of the deepest and noblest in our nature, man, early in his history, sought to rescue from decay and preserve the form of his deceased friends and kinsmen. A primitive method of doing this was by desiccation or drying the dead body. This was practicable in regions in which there was little or no rain; and, as a consequence, putrefaction was tardy, or did not occur. Such climatic conditions existed in Egypt, and antedated and suggested embalming the body, by which decay was more speedily and effectively arrested. The nature of the soil was sometimes an ally of the air in preventing decay. This is the case on the coast of Peru, where the soil is saturated with mineral salts of an antiseptic nature. Thus, in the vicinity of Lima, I have observed that the earth is laden with nitrate of soda, in crystalline form. In walking over the earth there, one feels the mineral matter crushing under his foot, similar to what is felt in walking over slightly frozen earth. In the suburbs of Callao there is a cemetery in which bodies which were interred long previously were said to be in excellent preservation. Unaided nature there has proved a successful embalmer. In the Cathedral of Lima the traveler is shown the body of the old Spanish conqueror, Pizarro, in a large room under the church. The tradition was that his body had been buried for a time in the preservative soil of that region. However that may be, the dried corse of the old hero has well resisted decay; in fact, the elements have treated it more sparingly than man himself, for the stranger from abroad,

*The recent death in this city of the great prima donna, Emma Abbott, and the fact that she made it a provision in her will that her body should be cremated, invests this subject with additional interest.—E. R. S.

I observed, had pilfered almost all that could be plucked or torn from the mummified remains ; and though the old warrior's remains, which furnished proof of a once grand physique, had well escaped the worms, yet it was only to fall a victim to the relic-gatherer, as was well attested by the handless and footless trunk which remains of him. To such depths of profanity the seekers for curios may sink !

All history agrees in the fact that in the early ages of the human race, the usual mode of disposing of the dead was by burial in the earth, and this was commonly near to or beneath the habitation of the deceased. But how this usual disposition came to be superseded by that of burning the remains, has proved a difficult problem to the antiquarians. Some think it had its birth in the doctrines and teachings of the old philosophers; of their four elements, earth, air, water and fire, the latter was the most important one, and was viewed as something sacred ; and certain anthropologists teach that as the highest of devotional acts the dead were disposed of as burnt offerings. This explanation is far from satisfactory; for the doctrines of the philosophers were held by a limited number of adherents ; in fact, they were unknown to the uneducated, who constituted the major part of society. And besides, the reverential attachment to their dead, which has always prevailed among men, was utterly opposed to any treatment of the dead that would quickly annihilate the human form and reduce the body to its primitive elements.

Some other motives than that of the inspirations of philosophy must have been instrumental in originating cremation. The method of burning the

dead obtained among the Greeks, Romans, Hindoos and the Aztec race of Mexico. And these nations, except the Hindoos, were almost continuously engaged in warfare; this was especially the case in Rome, where the temple of Janus was never closed except in time of peace. Writers report that this temple was closed for the second time in the reign of Augustus. The Greeks, too, were constantly at war. After battle, both victor and conquered must dispose of the bodies of the slain. To accomplish this, it is believed that cremation was often resorted to as the speediest and easiest way. This is the explanation that is offered by archæologists who have endeavored to trace cremation to its causal motives. As the slain were as often buried as burned, this explanation is but partially satisfactory; and I think it is to be sought rather in the religious sentiment, which, in one form or another, is so intimately wrought in man's nature ; whether it was done for expiation, purification or deification, is now a question difficult to answer, yet it is believed that each of these had a share in the origin of this rite.

When the Roman Empire was at its highest summit of power, cremation was in special favor, particularly among the wealthy class ; in fact, the poor man had not the means to indulge in this luxury. The combustible materials required to consume the body involved an outlay far beyond the purse of poverty. That this is so, is apparent from the following description of the rite as practiced among the wealthy citizens of Rome in the time of the Cæsars.

As among us there are undertakers who bury the dead, so among the Ro-

mans there were those who burned them. Also, in their list of divinities they revered one who presided over the disposal of dead bodies. This goddess, who, from the doubtful compliments paid her by Horace, was no great favorite, was named Libitina. In her temple was kept an outfit and furnishing for funerals; also, a register of the names of those who had died was preserved there; and for each funeral, a piece of money was contributed to this temple. The funeral director was named from his goddess, Libitinasius. This personage, of whom there must have been many, on the death of some one, sent a slave to wash and anoint the body of the deceased. If the dead one were a person of high distinction, his body was dressed in his official costume and placed on a couch of parade, and this was exposed to public view for seven days. The funeral then took place, which consisted first of a band of musicians who played on a special instrument named the funeral flute. Behind the musicians followed a band of mourners, who with bare heads and disheveled hair counterfeited sorrow in the most lively manner; these mourners also sang funeral hymns which abounded in praises of the deceased. After these followed the sacrificer, whose office it was to sacrifice favorite animals, as horses and dogs, on the occasion. After these came the dead person, borne on a costly bier, alongside of which were carried the images of ancestors and objects with which the person had been honored during his life. Next came a buffoon or actor, who endeavored to imitate the deceased in person and action, and behind this man followed a file of servants, who brought along the ani-

mals which were to be sacrificed during the burning of the body.

In case the deceased was a man of great distinction, the funeral pomp was an event of great magnificence. The body of such a one was first borne to the forum, and there the son, or, if he was not of age, a near relative pronounced a funeral oration. And to add to the eclat of the occasion, there were placed around the tribune the images of the ancestors of the deceased, which had been brought from his home, and were placed in the forum on seats of ivory. These images were dressed in costumes corresponding to the dignity of the deceased, and were summoned there as if to listen to the praises of their descendant. And as if these mute witnesses were really alive, lictors bearing axes and official insignia, were stationed before them.

When these preliminary acts of honor were finished, then the body was carried to the Field of Mars, the suburbs, or to the Esquiline hill, according to his rank in life; and the final work was done there. The Field of Mars was reserved for the nobility. The pyre was chiefly of wood; yet to disguise its purposes and to hasten the flames, there were placed on the pile waxen images and drapery; on this, the body in rich dress was placed; but before the torch was applied, a near relative came and opened the eyes of the corpse, in order that it might look towards the sky, and then having called aloud to the dead one, the eyes were re-closed, when friends and relatives cast precious oils and perfumes on the body, and the consuming flame was lighted. The perfumes tended to conceal somewhat the smell of the burning flesh. While the flames were

doing their work, a most exciting spectacle was enacted around the pyre ; a band of gladiators was engaged in bloody combats ; and thus was represented, in some measure, the immolation of prisoners who were sacrificed at the funeral of the warriors of olden times.

Homer has given us a picture of cremation with all its extravagant accompaniments, as practiced among the early Greeks; this is the famous funeral of Patroclus, the friend of Achilles. The description of the rites practiced on that occasion is so nearly similar to that given by historians of the way in which cremation was later done, that it is probable that the Homeric description served as the ritual for funerals for a number of centuries.

The Hindoos, at the present time, burn their dead. And the custom probably arose from the fact that Boodh, the founder of their religion, was burned at his death. Among them the common layman is cremated in a prostrate posture, while the priestly order is consumed in the sitting position. When the Hindoo is near death, his body, placed on a sacred couch, is carried out of his house and placed on the earth. Meantime, leaves of a certain plant are strewn on him, while prayers are being recited. If he lives near the Ganges, their sacred river, he is carried to its banks. And should the person thus treated afterwards recover, he then does not return to his family; and there are said to be villages along the Ganges which are peopled by those who have thus escaped death. Should the individual die, then his body is washed, perfumed, covered with flowers and carried to the place of burning. In Southern India, the face of the dead is painted with car-

mina, and is left uncovered during the time that the body, accompanied by musicians, is carried to the site of cremation.

Before proceeding to cremate the body, the Hindoos apply tests to determine whether the individual is surely dead. In this, they pinch his nose, press his stomach, throw water on his face, and blow a trumpet in his ears, and lastly, they fill the mouth with sand. It is pretty certain that after all these tests, if no signs of life are shown, there is not much danger of burning the person alive, an event which, according to Pliny, occurred several times at Rome ; a consul and two prætors were recalled to life on the funeral pile.

Among the Aztecs in Mexico, cremation of the dead was practiced. And the ceremony was remarkably similar to that which prevailed among the Greeks and Romans; enough, indeed, to show that the rite sprang from elements which are common to all races of mankind. In Mexico, as in ancient Greece, the cremation of a chief or high dignitary was sullied by human sacrifices; those who were thus slain were thought to accompany the dignitary to the other world, and to become his servants there.

The custom of cremation so generally practiced by the Greeks and Romans in antiquity, fell into disuse as these nations became converts to Christianity. The burial of Christ and the belief of His followers in a material resurrection from the grave doubtless caused the discontinuance of cremation. The veneration and preservation of relics of the bodies of those who had been famous in the Christian cause, were promoted by burial ; and hence the funeral pyre

soon became a matter of history, and scarcely known except to the classic scholar.

In modern Europe, the revival of cremation as a method of disposing of the dead, appeared during the eventful period of the French revolution, near the end of the eighteenth century. The Directory, which managed the ship of state in France during that stormy period, attempted to revive this rite; and in the enactments passed, it is clear that the advocates of cremation had in view the custom of antiquity. In the year V. of the republic, the following laws were proposed: "It is permitted to every person to cause to be buried or burned the bodies of his kinsmen, or those who are dear to him, provided he always conforms to the laws of police and health. The law of health forbids that the body shall be burnt or buried within the enclosure of residences." The proposed enactment did not become a law: two years afterwards it was called up again, and then it was not intended for all France, but to be limited to the Department of the Seine. The project then proposed by citizen Cambry was as follows: "The Field of Rest shall be at Montmartre, where twenty acres of land shall be bought for the purpose, around which there shall be built a wall two and a half feet thick; and in this wall shall be constructed receptacles for funeral urns. The enclosing wall shall have four great portals, dedicated respectively to infancy, youth, manhood and old age. From each of these gates there shall pass a winding road, emblematic of the course of life, towards a central monument in the form of a vast pyramid. This pyramid shall be so arranged in its interior, that the

bodies of the dead can be burned there without the public being able to see the cremation. The contained furnaces are so constructed that the ashes from one another will not commingle. Wood shall not be used as fuel, but the bodies are to be consumed by the means of modern chemistry. On the pyramid there shall constantly be burnt fragrant plants and perfumes."

These proposed measures were never realized; the sceptre of the republic passed into the hands of Napoleon, who had the shrewdness to see that his power would be strengthened by a return to the old order of things. The wandering priests, whose exile is charmingly told by Lamartine in his *Jocelyn*, were recalled by the first consul; the temple, modeled after the Parthenon and dedicated to Glory, was consecrated to the Magdalene; the churches were reopened, and funeral rites were performed as they had formerly been done, by inhumation. Montmatre did not witness the proposed monumental mound arise for cremation; France returned to her old customs, having enough of liberty, equality and fraternity. She made the fatal mistake of inaugurating changes before her people were prepared for them. The social system, like the human body, cannot tolerate too abrupt changes. A century afterwards, and France is ripe for a republican government, and the seeds of cremation planted by her a hundred years ago are now springing into life.

Cremation was made most extensive use of in the late Franco-Prussian war. A vast number of dead were buried after the battle of Sedan. The heat which afterwards followed caused foul exhalations to arise from the imperfectly buried dead. The Belgian

government, seeing that the neighboring population was menaced with danger, concerted with the French authorities, and found a remedy in the cremation of the illy interred dead. Mr. Creteur, a chemist, was given the charge of the matter, and he decided to do the work without exhuming the bodies. It was done as follows: the superficial earth was removed, and the surface saturated with carbolic acid, and over this a stratum of chloride of lime was strewn. Then the whole was inundated with coal-tar, such as is obtained in the preparation of illuminating gas. Over this was placed straw that was impregnated with petroleum. This was lighted, when a most intense heat was generated, and there was heard within a sound similar to that of boiling oil. A great column of black smoke then arose, which contained no ill odor. If the young Prince, as Napoleon ostentatiously telegraphed to Eugenia, had his first baptism of fire, the dead soldiery found there, their last one, and they had not the solace of the laurels which victory places on the tombs of her heroes. After this vast cremation was completed, the calcined bodies of the dead, coated with resinous matter, were found at the bottom of the pit. M. Creteur calculated that the cost of cremating each body did not exceed three cents. The Germans attempted cremation of their dead in the battle fields around Metz; yet their essays were not so successful as those of Creteur at Sedan. In the recent war between the Turks and Servians, they disposed of their dead by cremation.

A noted instance of cremation in this century, was the burning of the body of Shelley, by his friend, Lord Byron.

During the last twenty years, in Italy, France, Germany and England, there has been a movement, more or less general, towards the adoption of cremation. The ideas of its advocates may be briefly summarized in the language of a friendly writer, as follows: "If cremation, an ancient and noble procedure, replace the present dangerous and repulsive mode of putrefaction by burial, then there would be a gain in the respect for the dead, as well as in morality and hygiene. The present system of burying the dead is bad and unsatisfactory under every point of view; it is an attack on the dead, on the rights of the living, and repugnant to civilization and the feelings of humanity. On the contrary, cremation is a funeral rite that is consonant with morals and religion, and comports with hygiene and domestic economy.

About this time, Sir Henry Thompson, an eminent English surgeon, became a warm partisan of cremation; and soon afterwards Thompson had an equally earnest ally in T. Spencer Wells. A society of cremation was organized at London. Also at this time the municipal authorities of Vienna unanimously supported a proposition for the establishment of a location in which cremation could be done.

Whilst in these different quarters a movement was being made in behalf of cremation, the matter attracted attention in Germany, and societies for its promotion were organized. At Dresden Professor Richter became its advocate. Lectures were given and pamphlets published, and scientists were vying with each other to find the best way of doing the work. At Dresden Siemens constructed a crematory,

which in 1875 had the honor of consuming the body of Lady Dilke, of England. In 1876 there met at Dresden an international congress, held in the interests of cremation. A committee was appointed to promote the cause throughout Europe, consisting of eminent men from England, Holland, Germany, France and Switzerland.

An objection urged against cremation is that it is prejudicial or destructive to the cult or veneration of the dead. As answer to this, it may be said that no people ever showed more sorrow for their dead than the Greeks and Romans, among whom cremation obtained. Patriotism, which, it is claimed, springs from the soil of the grave, and ancestral veneration, were sentiments which lived in the hearts of these ancient people quite as much as they do in ours. The urn with its revered treasure symbolizes mortality and the solemnity of death more faithfully than does the grave on which grow green grass and tinted flowers; the inspirations to duty and the forming of resolutions for better action would probably be prompted more by the former than by the latter. One of the most sublime pictures traced by the classic pen of Tacitus is that of Agrippina landing at Brundisium with the urn in her arms containing the ashes of Germanicus. As she bore her precious burden thence towards Rome, a countless concourse of mourners attended her journey. A marble statue representing Agrippina carrying her funeral urn is to be seen in the palace of Luxembourg, in Paris.

Another reason for seeking some other disposition of the dead than that in present use, is the tendency of civilization to concentrate population in

great centres, cities containing a million or more of people are not rare. It is difficult to obtain land adjacent sufficient for burial. In a city of a million of persons there die annually about thirty-two thousand. To inter these a grave six feet long and four feet wide is required for each person. This requires a large space of land, which amounts in a few years to a very extensive area of surface. To make the land serve the greatest purpose, it is the custom to bury the dead in superjacent tiers, with but a small quantity of earth interposed. And after a certain number of years, when the bodies have decayed, the same earth is used again; and this process, in some of the old European cities has been continued so long, that the soil has become super-saturated with organic material, so that the earth refuses further duty of absorption. And such soil can only do its office again by depletion of its contents through growth of plants. These facts, added to the increasing need of land for building sites, have led large cities like London and Paris to recently select land for cemeteries many miles distant. London has now her necropolis that is growing rapidly apace with herself. A serious disadvantage arising from the remote location of a cemetery is, that it is inaccessible to the poor who bury their dead there; and hence they are precluded from making these visits to the resting-place of their dear ones which tend to help keep alive those religious sentiments which are associated with the memory and reverence of the dead.

While on the matter of place for the dead, I wish to say some words in reprobation of the prevalent irreverence of the public towards the dead, and the

disposition to drive them from homes where affectionate hands had lately placed them. Under the plausible pretext of hygiene, but more properly expressed, to secure land to build houses on, our cities, and even some small towns, are unearthing in their precincts the bodies of those whose hands planned and built these towns. And sometimes even the trouble of disinterment has been partially neglected, of which there is a most pertinent example in our own city, where, by legislative enactment, Yerba Buena Cemetery was but partly emptied of its dead tenants, and to add to the effrontery of the act, the palace of justice was created there. Nor is the infamous desecration yet completed, if one can judge by the occasional bombardment from municipal quarters of the walls of Calvary and Lone Mountain Cemeteries. Even rural villages which have countless leagues of empty verge around them, sometimes find the dead too near them. During the last year I was in a country village of less than one thousand inhabitants, which was moving the dead from a cemetery, a half mile distant; for the reason, to quote the words of a citizen, "that there were some beautiful building sites there." Shakespeare, whose comprehensive mind had not overlooked this irreverent trait in humanity, to guard against it in his own case, directed that there be inscribed on the slab covering his body, these lines:

"Blest be the man that spares these stones,
And cursed be he that moves my bones."

Though these words have thus far saved the grave of the great dramatist from impious hands, yet they would be powerless to do so in reference to those buried in our cemeteries. Nothing less than the flaming sword which

guarded the gates of Eden could protect them from the onslaught of the living invader. And thence we draw another plea in favor of cremation, for the handful of ashes to which it reduces the human body lessens greatly the space needed for their preservation—a space so little that the living, with all their greed and irreverence, can scarcely begrudge it to the dead.

An important problem for the friends of cremation to solve has been, how the work can be best and inexpensively done. In this new field of invention a multitude of hands have been busy during the last twenty years. The greater number of these inventors have been Italians, since cremation in Italy has the greatest number of adherents. Among the numerous models for crematories which have been prepared there, that of Polli and Clericetti has been decided to be the best. About the same time Siemens of Dresden invented one which seems superior in some respects to the Italian crematory. And, finally, a Belgian inventor, Hycynthe Kueborn, has presented the model of one which has the advantage of being transportable.

The apparatus of Polli and Clericetti is constructed in an edifice in the cemetery of Milan. Within this is the apparatus, having the exterior outlines of an ancient sarcophagus.

Within the past few years crematories have been erected near some of our large cities. In that near Philadelphia, the body of Dr. Gross, a leading American surgeon, was cremated in accordance with his request.

THE person is not dead whose noble works are remembered by those who live.

"RIZZLING" AS A THERAPEUTIC AGENT FOR INDIGESTION AND NERVOUSNESS.

"Rizzling" is a new term in therapeutics and everywhere else. It is thus explained by a physician, who states that it is the most wonderful aid to perfect health. "I masticate my food very thoroughly at dinner," he says, "and make sure to have my family or friends entertain me with bright talk and plenty of fun. After dinner it is understood that I am going to rizzle. How do I do it? I retire to my study, and, having darkened the room, light a cigar, sit down and perform the operation. How to describe it I don't know, but it is a condition as nearly like sleep as sleep is like death. It consists in doing absolutely nothing. I close my eyes and try to stop all action of the brain. I think of nothing. It only takes a little practice to be able to absolutely stifle the brain. In that delightful condition I remain at least ten minutes, sometimes twenty. That is the condition most healthful to digestion, and it is that which accounts for the habit animals have in sleeping after eating. I would rather miss a fat fee than that ten minutes' rizzle every day."—*Chatter*.

THE STRUGGLE FOR EXISTENCE IN THE PROFESSION.

While so many gloomy things are being uttered by amateur social scientists, respecting the struggle for existence, it is pleasant, says the *British Medical Journal*, to read the following words of a great American physician, Dr. Jacob Bigelow, the nonagenarian, father of the eminent sur-

geon recently deceased: "I have an unqualified belief," said he, "that by far the most happy form of life is that which proceeds through difficulties to success, and in which the candidate, after beginning at the bottom of the ladder, finds himself to be a little raised in position, ability and usefulness during the successive years of his life. In this way only does he appreciate the value of little acquisitions and of small advances in the social scale. Difficulty is the best antidote for satiety, and is needed by multitudes who begin life in the early possession of things for which others must wish and labor and wait." These words are recorded in Mr. G. E. Ellis's "Memoir of Jacob Bigelow, M. D."

THE "POTATO CURE" FOR FOREIGN BODIES IN THE STOMACH.

EDWARD PISKO, A.M., M.D.,
New York.

On the morning of December 6th, 1890, an urgent call came to me to see a child, aged eleven and one-half months, which had swallowed a one-inch screw. Upon my arrival I found that the screw had passed into the stomach, so I thought it hardly possible to extract it immediately. The child was apparently well and lively, playing with the other children. In spite of the tender age of the patient and the fact that it had hardly been weaned from the mother's breast, I ordered the "potato cure." It was given potatoes in every form, and white bread dipped in milk, but absolutely no liquid food. The same evening there was a passage, and

another one the following afternoon, and on the third day the baby passed urine twice, but had no passage from the bowels. The general condition was satisfactory. In spite of the abnormal food, the child played the entire day, and slept soundly every night. After the fourth day I prescribed a laxative in the evening, and during the night the screw passed spontaneously and without producing any pains, enveloped in fæces. After the evacuation of the screw, there was no injury to the stomach, no catarrh of the bowels; the child remained in its normal condition, the mishap having apparently affected its health in no way.

I mention this case to instance a successful result of the "potato cure," and also because of the interesting fact that, in spite of the unusual regimen, no visible reaction took place in an infant which had just been weaned from the mother's breast.

In connection with this case in my private practice I would like to add a few remarks about the "potato cure." Cameron, of Glasgow, relates a method which has been practiced for years by English thieves, who put away all kinds of articles when caught in the act of the thieving by swallowing the same, and then they eat a great quantity of potatoes, until they rid themselves of the articles swallowed. The potato cure was first experimented upon by Billroth, of Vienna, in whose clinic I had the opportunity of watching the cases of a cook who had swallowed a part of her set of artificial teeth, of a boy who had swallowed a weight of twenty grammes, and of a girl, aged nine, who had swallowed a sewing-needle. In each of these cases the "potato cure" was applied with

very flattering results. In 1886 I saw the following case in Albert's surgical clinic (Vienna): A boy, six years of age, who two years previously had swallowed a nail, which at that time was removed by gastrotomy, was brought there again with a nail (6 cm. long) in his stomach. This time the "potato cure," which had been introduced in the meantime, was used, with the result that on the ninth day the nail made its appearance per vias naturales.

SALICYLIC ACID FOR CORNS.

Dr. H. M. Whelpley, writing on the treatment of corns in *Notes on New Remedies* says that probably the most popular corn cures depend on the action of salicylic acid. Among the many therapeutic properties of this remedy is its power to disintegrate epithelial tissue. It is usually combined with cannabis indica. The form the writer has found useful is to mix nine parts of salicylic acid with one part of extract of cannabis indica and forty-eight parts of collodion. This is applied to the corn every night, with a camel's hair brush. The foot should be clean before it is applied, and the mixture permitted to thoroughly dry before it comes in contact with the clothing. A salicylic acid corn plaster is made by melting six parts of resin, and adding five parts of balsam of fir, and then stirring in ten parts of salicylic acid as it cools. This can be spread on any suitable medium for a plaster. When used, the corn must not be rubbed with the shoe. Lanolin forms the basis of another salicylic acid plaster, and cocaine is added with the idea of making it painless. To

form the plaster, mix six drachms of salicylic acid thoroughly with ten drachms of lanolin. Dissolve five grains of hydrochlorate of cocaine in a small quantity of warm alcohol and mix the solution with one fluid ounce of creasote. Mix one-half ounce of melted white wax with one-half ounce of vaseline and add the creasote solution. To this add the cocaine solution and mix.

PERMANGANATE OF POTASSIUM AS AN APPLICATION TO THE BITES OF POISONOUS INSECTS.

Dr. S. F. Dupon, of Fort Havack, Ga., writes that he has employed permanganate of potassium with striking success as an antidote to the venom of poisonous insects and fish. A solution in glycerine (3 ij. - 3 j.) is applied externally, and has given speedy and positive results in his hands. He mentions the case of a boy, who had been stung by a spider on the thigh, and whom he found in great agony with thigh greatly swollen. Within an hour after the application of this solution the pain had disappeared and the swelling was much reduced. Another case was that of a negro boy who had been stung by a "stingaree" (a salt-water fish), and who was in convulsions when found. In four hours after the application this boy had entirely recovered and returned to his fishing. Dr. Dupon has also found saleratus useful in similar cases, and recommends its use when the permanganate is not at hand. It should be made up into a paste with water, and applied to the bitten part.

GUARDING THE PUBLIC HEALTH.

Our western brethren in India are going to be sanitary or nothing. The State Board of Health has "requested" the owners or managers of all railroad coaches and street cars carrying passengers in this state to provide storm-doors or vestibules for each car designed to carry passengers. Thermometers must also be provided for each car, and the temperature kept at 68° or 70° above zero. Perfect ventilation must also be had. Spittoons must be provided, and the conductor required to see that one shall be partially filled with a solution of bichloride of mercury, and placed near the seat of any passenger suffering with chronic cough and expectoration, and that such person be directed to use the spittoon and not the floor.

The doctor is often a preacher of morals, but in "Every-day Etiquette," a recent work by Dr. Fisk Bryson, of this city, he, or rather she, becomes a preacher of manners also. Dr. Bryson's book is clever and sensible; and infuses into every-day etiquette just enough anatomy and physiology to show that there is a physical as well as moral basis to good manners.

SULPHUR. — Professor Boudard's views fit in not only with my grandmother's practice, but also with the dictum of the late celebrated Dr. Budd, of Plymouth, who used to say, according to the local gossips, that sulphur was the best medicine in the Pharmacopœia of his day, and that if it were a guinea an ounce more would be taken.—*Hospital Gazette*.

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M. B. SHIPP, M. D., EDITOR.

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EDITORIAL.

THE PREVENTION OF DISEASE.

The old adage, "Prevention is better than cure," is just as true to-day as it was a hundred years ago. And the great question now is with every learned and scientific physician, "What can be done to prevent disease?" Everywhere we see manifest this principle, from the educated layman to the most ardent advocate in the profession of Prof. Koch's theory of inoculation of a special lymph to destroy the poison of tuberculosis. Never did this idea occupy the minds of the people as it does to-day, evidences of which we see in improved sewerage, clean streets, more healthful dwellings, etc., etc. This in a general way. But the question with each should be, what can be done individually to prevent so much sickness and disease, and this great increase of mortality among us?

Would not attention to the small things, what might be termed the minutia of life, make a difference in our health? The hygienic knowledge, that fortunately is now becoming a part of every child's education, and yet not always observed practically by older members of the family. What can be more conducive to health than well regulated exercise, pure water to drink, sufficient quantity of plain nu-

tritious food at regular intervals, pure air in our sleeping apartments, cleanliness of the body both externally and internally. It may be a novel idea to some that the body needs cleansing *inside* as well as outside. Naturally daily evacuations are absolutely essential to health, and large draughts of either cold or hot water early in the morning before breakfast is a very efficient means of obtaining the result, and will also have a beneficial effect in removing dyspepsia, chronic diarrhoea, etc. Many people neglect the bath during the colder seasons of the year, when, facts being known, it is just as essential as at other times. Frequent bathing in tepid water and brush rubbing afterwards will prove the greatest safeguard and protection against the atmospheric changes so common to this climate. One observing mother remarked to us that she had noticed that if anything transpired to interfere with her children having their regular bath they were sure to have coughs and what is commonly known as colds. The hidden principle being a clogging of the glandular surface of the skin, the additional work being thrown upon the lungs and kidneys; congestion and sometimes an inflammation of these organs would be sure to follow. For the waste material that is naturally thrown off by the skin must find exit somewhere, additional work is thrown upon other organs, and as a natural consequence the overwork is followed by a reaction, that sometimes produces a serious malady, and it may even result in death. Then keep the skin clean. On the same fallacious reasoning people keep their houses shut up in the winter to keep out the cold, and this one little item is the most prolific cause of the greater preponderance

of lung troubles and other febrile and toxæmic diseases occurring during this season of the year. Effete matter and poisonous germs are retained in the system by breathing the same air over and over again. Fortunately the most of our modern homes are constructed on scientific principles, and the idea of good ventilation is duly considered; but, unfortunately, many people yet live in their old-time houses, and the only good source of ventilation they have, the fireplace, they have closed with a screen or fancy fire-board. One who knows says:

"Thousands of lives would be saved if all fireplaces were left open. If you are so fortunate as to have a fireplace in your room, paint it when not in use, put a bouquet of fresh flowers in it every morning if you please, or do anything to make it attractive, but never close it. Better use the fire-boards for kindling wood. It would be scarcely less absurd to take a piece of elegantly tinted court plaster and stop up the nose, trusting to the accidental opening and shutting of the mouth for fresh air, because you thought it spoiled the looks of your face to have two such great holes in it, than to stop your fireplaces with fanciful devices, because they look better."

Much more might be said upon this subject. But much better would it be if the knowledge we possess upon these subjects was put into practical use.

LADIES AND ATHLETICS.

"*Exigua est virtus præstare silentia re fœminarum.*" There is no merit in keeping quiet about the ladies, and it ought to be announced with no uncertain voice that woman has gone into

athletics. On January 15th the Ladies' Berkeley Athletic Club celebrated the first anniversary of its foundation. This delightful consummation was reached amid flowers, dumb-bells, music, horizontal bars, lovely gowns, pulleys, wands, health-lifts and the innocuous ice-cream and bouillon. The joyful ceremony as much as publicly announced that Venus was turning from Mars and horrid wars, and was setting her Cyprian cap for Apollo, god of health, music and parlor gymnastics. And the world will approve the coquetry. The Ladies' Berkeley Athletic Club is, we are told, an organization of ladies of the smarter sort who have taken up physical culture, and have done it so successfully that within a year they have established a finely equipped club house and gymnasium and secured a membership of several hundred. Such a success means a great deal, for it is but the beginning of a movement toward athletics for women which promises to spread throughout the country and eventually affect profoundly the physical status of American women. It has taken only ten years for modern athletics to become an essential part of manly culture and physical enjoyment. It may take longer to witness such a change among the gentler half of the race, but it is sure to come.

In 1854 Catherine Beecher wrote: "I shall be able to show that the majority of parents in this nation are systematically educating the rising generation to be feeble, deformed, homely, sickly and miserable." "The children of this country are every year becoming less healthy and less good-looking." Those of us who, happily, married some of the children of that generation may not entirely agree with all

that was said then ; but we are very sure that Miss Beecher, if alive in the coming decade, could not write as she did forty years ago.

The lady athlete is essentially a modern creation. The poetry, the history or the philosophy of the past never suggest such a thing. To the poet woman has been a lovely, languishing, anæmically phthisical creation who disappeared after marriage and maternity ; to the historian she has been an uninteresting necessity to racial continuance and human progression ; to the philosopher she has been a most bothersome item to the perfection of society and the solution of its hardest problems. No one has looked upon her as a possible athlete, as a creature of physical force and exuberant health, in whom supple limbs and strong muscles accompanied lovely form and happy temperament. "The soul of bliss is health," said the immortal Thomson — immortal if he said no more. For surely happiness is impossible to the sickly, the feeble and the diseased.

We congratulate the Ladies' Athletic Club on its already attained success and its prospective path-breaking future. It is making history, and we trust in later years, when the present athletic members are giving to their somewhat rheumatoid but still active limbs the rest, with flannels (*otium cum flaneha*), that belongs to advanced age, they will be able to look back with pride and satisfaction on the propaganda of feminine athleticism which began in the year of grace 1890.

IN ARTICULO MORTIS.

No human being can rest for any time in a state of equilibrium, where the desire to live and that to depart just balance each other. If one has a house, which he has lived and always means to live in, he pleases himself with the thought of all the conveniences it offers him, and thinks little of its wants and imperfections. But once having made up his mind to move to a better, every incommodity starts out upon him, until the very ground-plan of it seems to have changed in his mind ; and his thoughts and affections, each one of them packing up his little bundle of circumstances, have quitted their several chambers and nooks, and migrated to the new home, long before its apartments are ready to receive their bodily tenant. It is so with the body. Most persons have died before they expire—died to all earthly longings, so that the last breath is only, as it were, the locking of the door of the already deserted mansion. The fact of the tranquillity with which the great majority of dying persons await this locking of those gates of life, through which its airy angels have been going and coming from the moment of the first cry, is familiar to those who have been often called upon to witness the last period of life. Almost always there is a preparation made by Nature for unearthing a soul, just as on a smaller scale there is for the removal of a milk-tooth. The roots which hold human life to earth are absorbed before it is lifted from its place. Some of the dying are weary and want rest, the idea which is almost inseparable in the universal mind from death. Some are in pain, and want to be rid of it, even though the anodyne be dropped, as in the legend, from the sword of the

A dog barks from the inside, but a tree don't.—*Arkansaw Traveller.*

Death-Angel. Some are strong in faith and hope, so that, as they draw near the next world, they would fain hurry, as the caravan moves faster over the sands when the foremost travelers send word along the file that water is in sight. Though each little party that follows in a foot-track of its own will have it that the water to which others think they are hastening is a mirage, not the less has it been true in all ages and for human beings of all creeds which recognize a future, that those who have fallen, worn out by their march through the desert, have dreamed at last of a river of Life, and thought they heard its murmurs as they lay dying.—OLIVER WENDELL HOLMES.

POSTURE IN THE TREATMENT OF NOCTURNAL INCONTINENCE IN CHILDREN.

Dr. Van Tienhoven suggests that in this condition though the bladder acts normally through the day, it misbehaves at night. He believes that the vesical sphincter is not strong enough to keep back the urine which collects in the bladder in the early hours of the night and permits it to find its way into the prostatic portion of the urethra. The detrusor vesicæ is thus reflexly stimulated and the bladder emptied. In order to prevent the urine from running into the urethra in this way the children were made to sleep with the pelvis elevated. In this position the bladder is capable of holding a certain amount of urine before the liquid reaches the level of the urethral opening. The foot of the bed must be elevated so that the bed forms an angle of forty-five degrees with the

horizontal. The children should be sent to bed with empty bladders, and should not take any liquid just before retiring. They sleep well in this position and do not complain. Fourteen cases were treated by this simple method only, and all were cured in a short time.—*Medical Record*.

CURIOUS FOOD.

The lion is eaten by some African races, but its flesh is held in small esteem. The Zulus find carrion so much to their liking that, according to the late Bishop Colenso, they apply to food peopled by large colonies of larvæ the expressive word "uborni," signifying in their uncouth jargon "great happiness." David Livingston, that keen and accurate observer, reminds us that the aboriginal Australians and Hottentots prefer the intestines of animals. "It is curious," he says, "that this is the part which animals always begin with, and it is the first choice of our men." On this point I may remind the civilized reader that the woodcock and the red mullet, or sea woodcock, are both eaten and relished without undergoing all the cleansing processes which most animals used for food among us generally experience to fit them for the table, so that our aversion to the entrails of animals is not absolute, but only one of degree. The hippopotamus is a favorite dish with some Africans when they can get this unwieldy and formidable river monster, and when young its flesh is good and palatable, but with advancing years it becomes coarse and unpleasant. The Abyssinians, the amiable people to whom, according to the Italian Prime Minister, his countrymen proposed to

teach wisdom and humanity, find the rhinoceros to their taste; so they do the elephant, which is also eaten in Sumatra. Dr. Livingston describes the elephant's foot as delicious, and his praises will be echoed by many travelers in lands where that sagacious monster still lingers in rapidly decreasing numbers. "We had the foot," wrote the doctor, "cooked for breakfast next morning, and found it delicious. It is a whitish mass, slightly gelatinous, and sweet like marrow. A long march to prevent biliousness is a wise precaution after a meal of elephant's foot. Elephant's tongue and trunk are also good, and after long simmering much resemble the hump of a buffalo and the tongue of an ox, but all the other meat is tough, and from its peculiar flavor only to be eaten by a hungry man."—*Annals of Hygiene*.

SLEEP.

"God bless the man who first invented sleep." So said one of Don Quixote's heroes, and who of all the weary ones will not respond amen to this benediction.

How wonderful is the physiological process, one of nature's problems that is difficult to solve. The most that we know is that at periodical intervals this condition of somnolence comes over us, we yield to its influences for a period of greater or less duration, then awaken refreshed and ready for an outlay of physical force, which in turn is followed again by the return of this strange phenomenon.

The amount of sleep necessary for one person is no criterion for another. We read that Napoleon could do very

well with four hours' sleep, while the most of people require from eight to ten hours in the twenty-four. There is a great difference in the way people sleep. Some can take a little nap at any hour of the day or night and feel refreshed after, others can only sleep under the most favorable circumstances. Some can fall into a deep, restful slumber at once they touch the bed, a sleep that is of hours' duration, while others will toss and roll and tumble for hours after retiring, and only by the strongest effort of the will can they woo the mystic god, and even then they sleep so lightly that they awaken on the slightest provocation.

Nothing is a better guide to the physical status than one's ability or inability to sleep restfully, and upon this our good health depends to a very great extent. Nothing impairs the nervous system so quickly and so surely as loss of sleep. Persistent insomnia being almost an invariable forerunner of insanity.

Now the question arises: By what means can we secure to ourselves this very important requisite of good health of body and mind? Almost surely by observing the following propositions:

Avoid late suppers and rich food at all hours of the day.

Avoid all exciting topics of conversation and reading just before retiring.

See that all the functions of the body are performed regularly.

Have every part of the bed clean and well aired.

Bathing or sponging the body just before retiring will have a most happy effect.

Secure a good supply of pure air, not air from another damp, cold, unused apartment, nor from the over-

heated, vitiated atmosphere of the kitchen; but pure air from the ocean of atmosphere outside.

Dispel from the mind all troublesome and harassing thoughts and business schemes, and be at peace with the world and all mankind, and as soon as your head presses your pillow "nature's sweet restorer, balmy sleep," will waft your senses on her shadowy pinions.

E. R. S.

HOW TO USE CANNED GOODS.

An "expert," writing to the *Grocers' Chronicle*, well says that canned goods should be turned out and eaten as soon as possible. If kept at all, the food should be covered up and put in a cool place—always, however, turned out of the original tin. The liquor around lobsters, salmon and all vegetables, excepting tomatoes, it is desirable to strain off and throw away. Lobsters and prawns are improved by being turned out in a sieve and rinsed with clear cold water. Never on any account add vinegar, sauces or any kind of condiment to tinned foods while they are in the tins, and never leave such mixtures to remain an hour or two, or throw them away if from forgetfulness it is done.

All tinned goods are put up as fresh as it is possible to be, but, unless corned or salted, will not keep if turned out, as freshly cooked goods will, and certainly not longer, as many thoughtlessly suppose or expect they will. Sardines, if preserved in good oil and if of good quality, will be an exception; as long as the oil is good the fish can be kept in the tins. But seven days is long enough to trust these before eating. Consumers should not buy larger packages of canned goods

than they can consume quickly; if they should, most of the fish and meats can be potted after recooking, sauces and seasoning being added. If the nose and eyes are properly used, it is as impossible to partake of an unsound tin of canned food of any kind as to partake of bad meat, fish or vegetables from a shop.

CANARIES SUBJECT TO DIPHTHERIA.

Happening into a bird store one day recently a representative of this paper had a chat with the proprietor on the subject of birds, generally.

Of canaries he said: "There never was a greater demand for these beautiful songsters than there has been for the past three months. The demand is greater every winter, but this winter beats them all."

"What's the cause of this?" he was asked.

"Diphtheria," he replied.

"Is there an epidemic among them?"

"No, not exactly. You see, birds in a house will take almost any infectious disease which may happen to afflict members of the household, and they die off very quickly once they are taken sick. They will take scarlet-fever, measles, almost anything like a human being. They cannot be cured, for by the time their sickness is discovered they are too far gone for aid. Hundreds of canaries as well as other household birds have died because of the prevalence of diphtheria during the winter. I dare say there will be many pathetic stories told shortly of the simultaneous death of children and their favorite birds, and much talk of broken bird hearts. When it

is understood that the child and the bird have had the same disease, the pathos will vanish. People who have had valuable songsters and know their nature always remove them from a sick-room to a distant part of the house, but as a general thing the owners of songsters understand very little about them other than that they can sing."—*St. Louis Globe-Democrat*.

A SURGICAL USE FOR ANTS.

Ants have very powerful jaws, considering the size of their bodies, and, therefore, their method of fighting is by biting. They will bite one another, and hold on with a wonderful grip of the jaws, even after their legs have been bitten off by other ants. Sometimes six or eight ants will be clinging with a death-grip to one another, making a peculiar spectacle, some with a leg gone, and some with half the body gone. One singular fact is that the grip of an ant's jaw is retained even after the body has been bitten off and nothing but the head remains. This knowledge is possessed by a certain tribe of Indians in Brazil, who put the ants to a very peculiar use. When an Indian gets a gash cut in his hand instead of having his hand sewed together, as physicians do in this country, he procures five or six large, black ants, and holding their heads near the gash, they bring their jaws together in biting the flesh, and thus pull the two sides of the gash together. Then the Indian pinches off the bodies of the ants and leaves their heads clinging to the gash, which is held together until the gash is perfectly healed.

ADVICE TO SUCKLING WOMEN.

In the *Petit Journal de la Santé*, Dr. Sully gives the following advice to suckling women: Abundance of substantial food, which should be easily digested. This food should contain a considerable quantity of albumen, also of salts of lime, of soda, and of potash. On this account, lentils deserve the preference. After having tried alcohol in all its forms, the author concluded that every variety of alcoholic drink is injurious as much to the mother as to the child. It is true that the absorption of a glass of beer or porter increases the afflux of milk to the breasts, but this milk is watery, poor in nutritive principles, and not at all comparable to that which is produced by the digestion of substantial nourishment.—*Paris Letter, Boston Medical and Surgical Journal, November 8th, 1888*.

DISEASES CONTRACTED FROM "LOWER ANIMALS."

The "lower animals," as we are pleased to call them, have a way of revenging themselves for some of the injuries they receive from the higher animal, man. They contract diseases in a mild form and communicate them as virulent epidemics to their masters. The cow has a slight attack of scarlatina—so slight that it hardly causes her inconvenience—and a deadly infection breaks out among those who drink of her milk. From a report which has just been compiled by Dr. George Turner for the Local Government Board, it appears that diphtheria may be one of the diseases which we

catch from animals. Pigeons suffer from croup, horses and swine from "strangles," lambs from sore throat, all which affections, Dr. Turner thinks, may develop into diphtheria in human beings. The worst offender is the domestic cat, which is very liable to suffer from a cold in the head and chest, and to pass it on in a much worse form to children.—*St. James Gazette.*

PREVENTION OF ALL INFECTIOUS DISEASES.

The science and practice of medicine and surgery are undergoing a revolution of such magnitude and importance that its limits can hardly be conceived. Looking into the future, in the light of recent discoveries, it does not seem impossible that a time may come when the cause of every infectious disease will be known; when all such diseases will be preventable or easily curable; when protection can be afforded against all diseases, such as scarlet-fever, measles, yellow-fever, whooping-cough, etc., in which one attack secures immunity from subsequent contagion; when, in short, no constitutional disease will be incurable, and such scourges as epidemics will be unknown. These, indeed, may be but a part of what will follow discoveries in bacteriology. The higher the plane of actual knowledge, the more extended is the horizon. What has been accomplished within the past ten years, as regards knowledge of the causes, prevention, and treatment of disease, far transcends what would have been regarded, a quarter of a century ago, as the wildest and most impossible speculation.—*Dr. Austin Flint in the December Forum.*

BAD BREATH.

Dr. Frank H. Gardner gives the causes of bad breath as follows: First, decaying particles in the mouth as far back as the pharynx taint the breath, if exhaled, very little if at all. Second, mouth-breathers have a bad breath when the tonsils are enlarged, or when cheesy masses exist in the tonsillary mucous folds. Third, certain gastric derangements taint the breath only when gases are eructated through the mouth. Fourth, the principal cause of bad breath is decomposition in the intestinal canal, the retention of fecal matter in the transverse and descending colon, and the absorption of gases into the circulation, finally exhaled by the lungs. Fifth, catarrh—nasal, pharyngeal, or bronchial—causes bad breath. Sixth, medicines or aliments which undergo chemical changes below the œsophagus may, by rapid absorption through the stomach walls, or immediately below, give to the breath the characteristic odor. Bad breath is often a source of serious annoyance to the patient, and the fact that it has more than a local cause is too often ignored by the physician, who therefore fails to cure it.—*Dental Review.*

NERVOUS PATIENT (IN DENTIST'S CHAIR).—"Will it hurt much, doctor?" Dentist (reassuringly): "I'll guarantee it won't hurt a bit." Nervous patient (not convinced): "But what if it should, doctor? What would your guarantee amount to?" Dentist (evidently sure of himself): "If I hurt you, my dear sir, I'll pull every tooth in your head, and it won't cost you a cent."—*Chem. and Drugg.*

